FEEDSTUFFS

★ A WEEKLY NEWSPAPER ★

FOR THE FEED MANUFACTURER, JOBBER, BROKER and DEALER

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Sedative Tested As New Way of Handling Poultry

ATHENS, GA.—Two University of Georgia poultry research scientists—Dr. Till M. Huston and Dr. Kenneth N. May—have applied for patents on a simplified method being tested for catching, handling, slaughtering and plucking poultry which is said to have "excellent possibilities for greatly streamlining" the processing of broilers and other domestic fowl.

The experimental method involves the use of a sedative to inactivate the live birds for their trip from growing house to the processing plant. The sedative is fed to the birds in pelleted feed and reportedly relaxes them so completely they can be caught, loaded, hauled to the plant and placed on conveyor belts without a flutter.

Such a sedative would be a boon to poultry processors because bruises sustained by the birds in catching, loading and hauling have always been a serious problem.

Of additional value is that effectiveness of the sedative continues through the plucking of the slaughtered birds. The scientists reported the sedative causes relaxation of the dermal muscles, inducing relaxation of the feather follicles and permitting removal of feathers without use of hot water now universally used in commercial processing. Once this feature of the sedative's use has been refined, Dr.

(Turn to SEDATIVE, page 113)

Further Explanation of Drug Status Outlined

WASHINGTON — The Food and Drug Administration was continuing this week to carry out its recent policy statement on the status of certain veterinary drugs under the Delaney amendment to the food additives law.

The amendment deals with substances said to be capable of "inducing cancer when ingested by man or animal." Estrogens and arsenicals are involved in the current problems which face the feed industry under FDA regulations.

Following up issuance of its policy statement (Feedstuffs, May 30), FDA

(Turn to DRUG STATUS, page 113)

Eastern Group Seeks Ways To Make Poultry Industry Competitive with Other Areas

By PAUL L. DITTEMORE
Feedstuffs Staff

POCONO MANOR, PA. — The steadily changing pattern of agricultural production and distribution in the U.S. apparently has put a good many feed millers and merchandisers in the Northeast behind the economic eight-ball.

The majority of addresses and discussions heard at the annual meeting of the Eastern Federation of Feed Merchants, held June 8-9 at Pocono Manor Inn, concerned ways and means to restore the eastern poultry industry, and the Delmarva area in particular, to a more competitive position with regard to other poultry-producing regions of the country.

As an example of the shift in poultry production, it was pointed out that during the past five years, Alabama, North Carolina, Mississippi and Georgia have increased broiler production by 174%, 130%, 111% and 89%, respectively, while broiler production in the Delmarva peninsula has gained only 41% in the same period.

During 1958 broiler production in Georgia totaled 292.1 million birds, while the Delmarva output totaled 180.4 million birds.

Cost Comparison

Add to that whopping big increase in production in the southern states the hard economic fact that total production costs are about 2.9¢ a pound higher in the Delmarva peninsula, and you can readily see why the feed millers and feed merchants in the Northeast are more than a little concerned.

Of the total spread of 2.9¢ per pound in production costs, it was

(Turn to EASTERN, page 112)

Indiana Feed Men Urged to Follow Sound Principles on Feed Bookings

By DON E. ROGERS
Feedstuffs Staff

FRENCH LICK, IND.—Some 250 Indiana grain and feed men, many with their wives and children, combined business and pleasure at the mid-summer convention of the Indiana Grain & Feed Dealers Assn. June 7-9 at the French Lick-Sheraton Hotel.

A program of outstanding speakers made the business sessions profitable, while the three days of ideal June weather made an enjoyable occasion for the outdoor activities.

The speakers covered such timely topics as feed bookings, feed industry "growing pains," and trade problems in connection with grain storage.

FEED BOOKINGS — I. S. Riggs, vice president of the Quaker Oats Co., Chicago, and chairman of the board of the American Feed Manufacturers Assn., had as his subject "The New Feed Look." Mr. Riggs commented on some of the current industry trends and problems, including over-production of poultry products, and then he devoted special attention to the problem of feed bookings, particularly contract sales of cattle feeds guaranteed against decline. He urged feed men to follow the booking principles listed in the 1959 AFMA Feed Merchandising Plan developed by the AFMA Sales Executive Council.

"We have now reached the point," said Mr. Riggs, "where a serious at-

(Turn to INDIANA, page 113)

CAPITAL COMMENT

Turkey Legislation Getting Attention; USDA Frozen Egg Buying to Start

By JOHN CIPPERLY
Feedstuffs Washington Correspondent

WASHINGTON—The problems of turkey and egg producers were in the spotlight this week in Washington, and further action on wheat left indications that there will be no new wheat legislation this year.

As for poultry—the proposed turkey marketing act was coming up for attention in Congress, and the USDA was implementing its plan to buy frozen eggs to help prop low egg prices.

TURKEY LEGISLATION: Now heading up for attention in the late hours of this session of the 86th Congress is the proposal of the National Turkey Federation to establish a national turkey marketing act. Basically it is known as a "self-help" operation of the turkey industry which in the past has received, in principle, the approval of Ezra Taft Benson, secretary of agriculture.

It is regarded by observers as essentially a move on the part of the turkey industry to head off invasion of that industry by the type of integration which would knit the whole composite from the hatchery to the marketing organizations into a unit.

The proposed legislation is designed to permit development of a "federal marketing order" covering turkeys and turkey products. The legislation is patterned somewhat after the present marketing agreement act but also has certain differences.

The American Farm Bureau Feder-

(Turn to CAPITOL COMMENT, page 109)

FEEDSTUFFS *Features This Week*

MILLING OPERATIONS: The necessity for customer service in a successful custom milling operation is emphasized in an article on **page 14.**

PRODUCTION COSTS: Labor efficiency in formula feed production is discussed in a USDA report on **page 18.**

PELLETING: A discussion of the feeding value of pelleted rations for fattening ruminants appears on **page 30.**

SALES PROMOTION: How a Wisconsin firm uses giveaway programs to build sales and good-will is told on **page 88.**

HANDLING: A Pennsylvania feed plant tells what a new bulk handling system for ingredients has done for increased output and efficiency. See **page 92.**

FEED GRAIN BANK: How the grain bank works is reported in detail on **page 99.**

EQUIPMENT: New facilities boost capacity and increase flexibility of Iowa mill. A full report appears on **page 102.**

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Dr. John Salsbury Notes Evidence of Arsenical Safety

CHARLES CITY, IOWA—"There is in existence substantial evidence that organic arsenicals do not impose hazards to the food supply from the standpoint of drug residues in the tissues of slaughtered animals or in their products," Dr. John G. Salsbury pointed out this week.

Dr. Salsbury, who is vice president and general manager of Dr. Salsbury's Laboratories, Charles City, Iowa, said that evidence of the safety of organic arsenicals, including 3-nitro-4-hydroxyphenylarsonic acid, has been submitted to the Food and Drug Administration in the past, and that additional evidence will be submitted in the very near future.

In a statement commenting on the status of certain drugs in relation to the new food additives law, Dr. Salsbury also said: "We are convinced that 3-nitro is not harmful to chickens or swine, or to the human population consuming poultry, pork or other products. . . . It seems to us that officials should carefully weigh the public interest in all of its ramifications before denying the right to use any drug products that have proved beneficial with no evidence of injury."

The text of Dr. Salsbury's statement follows:

"There is considerable concern

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FEEDSTUFFS

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Accent on Youth

THE ACCENT IS ON YOUTH in the month of June. School's out, and one can't help notice it. From the elementary halls of learning swarms of spirited vacationers have poured into the surroundings of summer freedom to fill the beaches and pools, chalk the sidewalks, park bikes in the driveways and convert thousands of vacant lots into Yankee Stadium.

Caps and gowns on the bright-eyed and eager graduates are very much a part of the June scene. Their achievements, as well as the achievements of the colleges and secondary schools which have helped them to the threshold of maturity, outshine the summer sun in the eyes of their parents. The promise of future accomplishment by the graduates recharges everyone's hopes for the future.

Youth need not be counted in years alone. Adaptability and willingness to look the future honestly in the face, recognize opportunities and make plans for personal usefulness are characteristics of the graduates, but they also are the characteristics of those who do not let mere age interfere with a youthful approach to business and to living in general.

An industry, too, can have the zest and forward-looking attitude of youth. The feed industry in many ways demonstrates that it is not intent on remaining in the ruts of custom or tradition. It intends to make good its "career" of service and productivity much as the new graduate intends to, and if it at times shows signs of immature judgment it perhaps is making the mistakes by which one learns as he is growing up.

RECOGNITION OF OPPORTUNITY, from which youthful ambitions spring to accomplishment, is vital to an industry. The importance of this factor was stressed the other day by Bill Diamond, secretary of the American Feed Manufacturers Assn., in a talk at the Central Retail Feed Assn. convention. "If there ever was an opportunity for feed men—today is that time," he said. "The feed industry is made to order for the optimist. Unlike industries which are in the 'hard goods' line where products can be made to do another year, the feed man has a steady replacement market, since his product is purchased to be fed to produce more income for the farmer. It is an enviable position, unique in American industry."

Mr. Diamond declared that today's feed man must be more aggressive. "The successful feed man," he said, "will work hard at building good-will and confidence among his customers. To this kind of feed man, the problems of integration hold no terror. He is in business to stay and his greatest worry will be to find a son or deserving younger man who can carry on after he reaches retirement age with a profitable business at hand."

There is no doubt that the feed man who approaches his problems with intelligence and honest evaluation of innovations will have the sort of business that will attract the keener graduates who will in turn contribute more ideas, learn and build opportunities for the next generation.

UNFORTUNATELY, THIS SORT OF AN APPROACH is not universal. An anecdote told by E. G. Cherbonnier, advisor to the Grain & Feed Dealers National Assn., reflects a different picture: "Riding on a bus one day I met some young college men. It was early in the school year and they were swapping information about the businesses of their fathers. The father of one was a doctor, another an auto dealer, another a teacher. Sitting right across from me was a nice looking young man, and when the boy in front of him turned and said, 'What does your father do?', the reply was in an almost embarrassed tone, 'Oh, my dad's a feed dealer.'

"I wondered what kind of a store his father operated and how much of a part he played in the agricultural progress of the community."

Mr. Cherbonnier, who told this story at the Missouri convention, commented on the presence of the number of young men in the audience who are in the second and third generations of feed distributors. "Their communities have every right to be proud of them," he said.

EDUCATION WILL PLAY an ever-increasing role in preparing young men for careers in the feed industry as well as all the other agriculturally-related industries. Educational authorities estimate that only 7,000 of the 15,000 jobs offered to graduates of agricultural colleges this year can be filled with properly trained men. While the accent is on youth this June, the high school graduate should be made aware of the opportunities available to him in learning to serve agriculture. Yesterday's tinker-toy builder soon enough becomes the design engineer who will build tomorrow's mills.

How's Business?

AN EVERY WEEK REVIEW OF FORMULA FEED BUSINESS VOLUME, INCLUDING PRICE, SUPPLY AND DEMAND TRENDS

The spottiness which has characterized formula feed demand this spring continued during the past week. While the Southwest reported some improvement, the Ohio Valley, the Northwest and Central States experienced slower business. Other areas found demand moving along at a fairly even pace. Unfavorable feeding ratios, particularly in the depressed broiler and egg industries, have been holding the industry's growth to a far slower pace than was reported a year ago. Firmer ingredients markets were shaping up, however, and it is thought that this trend may bring more active buying in the near future. Hog feeds and turkey feeds continue to be the only ones showing strong demand currently. (Ingredient prices in detail on pages 110-112.)

Northwest

Demand for formula feeds became spotty again during the past week after three weeks of generally steady strength. Some mill representatives reported a slight drop in volume and others found the reduction rather sharp.

For the first time in several weeks, there were reports of volume falling behind a year ago.

Hog feeds continue to be the sales leaders, with turkey feeds not far behind. Dairy and cattle feeds are down seasonally, and the poultry feed business continues weak.

One representative said his mill estimates its starter feeds off 50% from a year ago, but that increases in other areas are making up for it. Hog feeds, he said, have been particularly strong.

He said it appears that pork producers are employing the best possible feeding programs in an effort to hurry hogs to market. Indications also are, he stated, that hogs will be slaughtered at lighter weights next fall. The stress on good feeding has built volume for complete feeds, he said.

Ingredients have taken on a firmer tone, raising prices for next week. The strengthening has given representatives some optimism that it will bring dealers and feeders into more active buying than the hand-to-mouth policy which has prevailed through most of the spring.

Southwest

Formula feed business in the Southwest is improved slightly this week. Although most mills report that the pace is at about the same moderate level as in the previous week, several mills that found the movement very draggy last week note it has improved this week. Running time is mostly five days. At least one large mill running a special promotion will run six days to keep the backlog from getting more than three days. Others have little or no backlog.

Hog feeds seem to be the hottest moving line. Turkey rations are also figuring stronger in the picture all the time as the poults grow larger and as more poults are put down. Chicken feed makes up a good-sized part of the business, but most mills are disappointed that it is not bigger. Broiler rations are slowing slightly. Laying feeds lag and the low price of eggs has only a discouraging effect on this line.

There is very little range cattle feed business, but movement of feed into feedlots is contributing to tonnage for some mills. Dairy feeds are in fairly good demand, despite the excellent pastures.

Planting of feed grain crops is not yet complete, and this may be inhibiting feed movement in some areas. Harvest of wheat has also started in southern Kansas, Oklahoma and Texas, a job that requires undivided attention of the farmers involved, in many cases.

Price lists for next week are expected to range from 50¢ down to $2 up. Milo is a little lower in price, but millfeed, animal and vegetable protein and some other ingredients have shown strength.

Northeast

Manufacturers' running time was on the skimpy side as demand for formula feeds held at a relatively low level. Prices of end products continued to bring little or no profit.

Broilers in the East gave up a little more ground and ranged from a low of 14¢ lb. to a high of 16½¢ and an average return of 15@15½¢.

Eggs were off again but farm-level prices of large white eggs in the western New York area showed a slight improvement at 22½@26½¢ doz.

Egg mashes led in sales volume but growing and turkey feeds are taking an increasing slice of the over-all tonnage.

There wasn't much feature to the ingredient market last week.

Corn rose 1 to 1½¢. Oats gained 1¢ and barley held steady. Feed wheat was weak but unchanged. There have been some offerings of ex-lake corn and oats but there has been quite a lot of competition for bottoms.

Soybean oil meal (44%) held steady but 50% meal rose $1. Gluten meal declined $2 and linseed oil meal held steady.

Meat scraps were unchanged but the market had a weak undertone. Fish meal declined $2 to $3 on lack of demand and increased catches.

Alfalfa meal continued to weaken on increased production and was off $2. Gluten feed also dropped $2. Hominy feed declined $2.50 to $3. Distillers' grains held about steady and brewers' grains advanced 50¢ to $1.

Activity in bran and midds. turned quiet after the previous week's late buying flurry and prices eased 50¢.

Running time of formula feed manufacturers averaged out at 32 hours, with some mills down to 24 hours and some up to 40 hours.

Southeast

The feed business in the Southeast remains practically unchanged. The big operators continue to report their

(Turn to MARKETS, page 115)

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Egg Output Ahead of '58

WASHINGTON — Egg production continued ahead of last year in May, according to the U.S. Department of Agriculture, which reported this week that farm flocks laid 5,279 million eggs during the month — 3% more than in May, 1958. Even so, the downward egg price trend of the last several weeks was curtailed during the last half of May.

Average egg prices received by farmers dropped during the month to the lowest point of any May since 1941.

All regions except the north Atlantic, down 2%, showed increases in egg production over last year. Increases were 10% in the south Atlantic, 6% in the south central, 5% in the West, 3% in the east north central and 2% in the west north central states. Total egg production January through May was 5% above the same period last year.

May's rate of egg production per layer was 19.6 eggs, compared with 19.3 eggs during May, 1958. This was an increase of 1% and a record high for the month.

The rate of lay June 1 was 62.5 eggs per 100 layers, up from the 61.5 rate a year earlier. All regions showed increases except the north Atlantic states.

Laying flocks averaged 292,419,000 layers during May, a 2% increase over 286,637,000 a year earlier. There were increases in all regions except the north Atlantic states where there was a drop of 2%, in line with the same decrease in egg production. The number of layers on June 1 was 286,504,000. (See table.)

Prices received by farmers for eggs in mid-May averaged 25.1¢ doz., well below the mid-April price of 28.1¢ and the 36.8¢ price for mid-May of 1958.

Hens and Pullets of Laying Age and Eggs Laid Per 100 Layers on Farms, June 1

Year—	North Atlantic	E. North Central	W. North Central	South Atlantic	South Central	Western	United States
	Hens and Pullets of Laying Age on Farms (thousands)						
1948-57 (average)	47,740	57,551	82,264	29,194	47,934	32,110	296,793
1958	48,796	53,966	74,942	30,008	39,882	35,495	283,089
1959	47,243	54,183	75,058	32,341	41,746	35,933	286,504
	Eggs Laid Per 100 Layers on Farms (number)						
1948-57 (average)	57.9	59.4	61.2	54.6	53.9	59.9	58.3
1958	60.5	61.9	64.2	59.1	57.4	63.1	61.5
1959	60.8	63.4	64.8	61.2	58.0	65.0	62.5

Arkansas Poultrymen Protest 'Inequalities' In Federal Inspection

By Special Correspondent

SPRINGDALE, ARK. — Northwest Arkansas poultry producers and processing plant operators have strongly protested what they termed "inequalities" in the work of poultry inspectors at plants in the Dallas region as compared to the work of inspectors in other areas.

The protests were lodged with high U.S. Department of Agriculture officials at a special meeting held at Springdale. The conference was sponsored by the new Arkansas Poultry Exchange, Inc., a group that operates a live poultry auction at Springdale.

Producers and plant operators attending the meeting charged that the difference in the inspection procedures of inspectors in the Dallas area will cost the operators in the area some $1,500,000 this year if changes are not made.

Hearing the protests were Hermon Miller, USDA; Dr. Roy Willie, chief poultry inspector for the USDA, and Dr. Kenneth McEnroe, Dallas, chief of poultry inspectors in the southwest region.

Sen. J. William Fulbright (D., Ark.) also attended the meeting, firing a barrage of questions at the USDA officials.

The poultry industry was led by Tom Hagan of the Ralston Purina Co., and Don Tyson, Springdale, of the Tyson Industries. The group claimed to represent about 90% of the producers in Northwest Arkansas.

Test Cases Cited

Backing their charges with facts and figures, the producers' group revealed the results of a number of tests involving an alleged difference in the inspections of shipments of chickens from the same farm.

In one case, broilers from one farm were divided into two separate shipments. One load went to a plant in the Dallas region, and the second was shipped to a plant in the Chicago area. Industry spokesmen claimed that in "every case" in which these type tests were made, a larger number of birds was rejected by inspectors in the Dallas area than by those in the Chicago district.

Producers declared that the percentage of rejections in a majority of the test cases reached "alarming

(Turn to ARKANSAS, page 109)

'Average' Hay Crop Reported by USDA

WASHINGTON—The hay crop as of June 1 was about average for the country as a whole, according to the June crop report of the U.S. Department of Agriculture. The condition of all hay on that date averaged 84% of normal compared with 86% a year earlier and 84% for the 10-year average.

Hay crop condition was off during May in most of the north Atlantic, south Atlantic and western states, but was improved in most north central and south central states.

USDA said winter-killing of grasses and clover was greater than usual in the north Atlantic states, and damage to alfalfa was particularly heavy in southern New England. Dry weather in April and May caused further deterioration in the Northeast, but good rains in early June relieved the drouth and improved prospects for later cuttings.

Prospects in southeastern states, USDA reported, are about average or better, except for Delaware, which has been dry.

Conditions for hay growth have been generally good in north central states, except for Minnesota and the Dakotas.

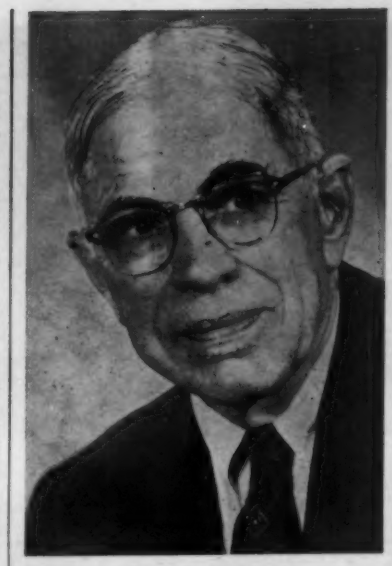
Prospects are best in Indiana, Illinois, Michigan and Wisconsin where hay growth has been rapid following ample spring rains and favorable temperatures.

Hay prospects in the south central states are generally improved over a month ago.

The June 1 condition of hay in most western states was reported by USDA to have dropped from a month ago. Growth has suffered from a lack of soil moisture in many areas.

E. A. Slocum Dies

KANSAS CITY—Edward A. Slocum, until about two years ago a partner with his father in the Kansas City Feed Co., died June 9 from a heart attack. He was 43. Mr. Slocum suffered a heart attack several years ago which prompted the closing of the cottonseed and soybean oil meal jobbing business he and his father operated. After a lengthy convalescence, he recently went to work in another field.



Dr. Leo Norris

Dr. Norris, Nutrition Authority, to Retire From Cornell Post

ITHACA, N.Y.—Dr. Leo Chandler Norris, considered one of the foremost authorities in the field of animal and poultry nutrition, will retire June 30 from Cornell University's poultry department and the graduate school of nutrition.

Dr. Norris has accepted an invitation to spend next year at the University of California, Davis, conducting research in poultry nutrition. Following that, he will return to Cornell and resume his research in the State College of Agriculture.

The professor has for the past three decades, alone or in collaboration with others, brought about fundamental scientific advances. Primarily, he has taken part in identifying numerous vitamins and minerals and pinpointing their significance.

His work is widely known, not only for its basic scientific nature, but also for its immediate practical value and successful application to other fields of nutrition.

Many Contributions

Among Dr. Norris' early contributions was the discovery of the importance of vitamin G in poultry nutrition. The work resulted in curing a type of leg weakness in chicks and improving reproduction and hatchability. It also pointed up the value of milk and fermentation products in feeding poultry.

Later, Dr. Norris showed that the vitamin G necessary for poultry consisted of riboflavin and an anti-skin disease factor that was later identified elsewhere as pantothenic acid.

Working with Drs. G. F. Heuser and H. S. Wilgus, Dr. Norris also discovered the nutritional significance

(Turn to DR. NORRIS, page 109)

CCC Reducing Sales Of Old Crop Corn

WASHINGTON — A slowdown in Commodity Credit Corp. sales of old crop corn is currently expected by reliable market observers.

CCC, at the present time, appears to be in a "comfortable" storage position for old crop stocks and the urgency to push sales has abated.

This, of course, does not mean that CCC sales from bin sites will dry up completely. It is pointed out at the U.S. Department of Agriculture that the heavy holdings of all grain crops indicate that there will be scattered instances of grain which must be moved. Another factor which may delay a closing of the spigot on the flow of CCC stocks of old crop corn is the time required for orders to "go-slow" to reach down to the county level.

But on balance, CCC officials give general confirmation of trade observations.

Reduced Broiler Settings Continue

SALISBURY, MD.—There was a slight increase in broiler prices last week in Delmarva. The average price paid on the farm was 16.22¢ compared to 16.06¢ the week before.

Nationwide last week, hatcherymen in the 22 important broiler producing states set 46,521,000 eggs. This was 1% less than the previous week and 9% less than the corresponding week a year ago. Decreases in the number of eggs set from the previous week were reported in 11 of the 22 states. The sharpest decreases from the previous week occurred in North Carolina, Virginia, Oregon and Maine.

Broiler chick placements in the 22 states totaled 34,087,000. This was 1% more than the previous week but 7% below the corresponding week a year ago. Increases were reported for 14 states—decreases for seven states, compared with the previous week. Largest increases from the previous week occurred in Indiana, Texas and Missouri.

Delmarva growers sent 4,057,000 broilers to market last week. This was 2% more than the previous week and 5% more than the corresponding week of 1958. Marketings were 102% of the number of birds started nine weeks earlier, an indication that growers had been holding birds, hoping for higher prices.

Program Outlined For Southeastern Egg Quality School

RICHMOND, VA.—Mounting registration and a challenging slate of speakers are pointing to another outstanding Egg Quality & Grading School to be sponsored by the Southeastern Poultry & Egg Assn. June 29-July 3 at Mississippi State College, it has been announced by Harold E. Ford, Southeastern's executive secretary.

Launched four years ago as an egg merchandising educational service to the southeastern egg industry, the school has experienced an increase in enrollment every year because of its excellent instructional approach to the proper grading of eggs, officials noted.

The school focuses attention on egg quality and means of measuring it with egg candling and grading under the supervision of experienced state and federal grading personnel.

College and government representatives will discuss egg formation and composition, egg quality, grading techniques, grading factors, effect of breeding on egg quality, effect of feed on egg quality, effect of poultry health on egg quality, state and federal grades, interpreting market news reports, automation and marketing. There will also be a panel on "Egg Law Enforcement."

Paul Yount, extension service, Mississippi State College, is to be laboratory supervisor for the school.

The fee for the school is $30 without lodging and $35 with lodging, which covers all necessary costs of registration and instructional materials. Meals may be taken in the school cafeteria.

Applicants for the school are urged to contact Mr. Ford at Southeastern's Decatur, Ga., office at 235 E. Ponce de Leon Ave.

DAVID LARSON TO WED

KANSAS CITY—David Larson, son of Lloyd Larson, executive vice president of the Midwest Feed Manufacturers Assn., will be married to Miss Nancy Kenneson of Melrose, Mass., at Westwood Lutheran Church, Kansas City, Kansas, on June 27. Miss Kenneson is a TWA hostess, and David Larson is pilot for Elbel Enterprises of Kansas City. They will reside at 4420 Roanoke Parkway in the Plaza, Kansas City, after July 1.

SWISHER FEED SERVICE...*The only plan geared to modern times and needs*

To STAY in business, to GROW in business, and to GET business it is absolutely essential that you gear your services and production to the *needs* of today's highly-mechanized, cost-conscious farming system. You must fulfill these needs *better than anyone else,* if you are to achieve SUCCESS! The ONLY way *you* can do that is to rely on an *alert, aggressive, forward-looking* organization who has a program that is *geared to today's needs.* You're well aware that "old-fashioned" methods are out in today's feed selling to big feeders.

The SWISHER FEED SERVICE plan to feed mills is the *modern* approach because it puts you in the *manufacturing* business!

THESE PROFIT POINTS MAKE COMMON SENSE!

PROFIT POINT 1 — You manufacture feeds *from one package* which contains all the animal-source protein, vitamins, unidentified growth factors, antibiotics, and minerals. All you do is add the grain and soybean meal locally.

PROFIT POINT 2 — By manufacturing feed under the Swisher Feed Service program you buy your own corn and soybean meal at greatly reduced costs. You save on transportation costs, handling charges and the mark-up of the middle man on the soybean meal and grain—the two major items used in feed today! This means that your profits increase because you're eliminating unnecessary charges.

PROFIT POINT 3 — You *sell* more feeds because you have a big price advantage to give to your customers. You can do this because you are the manufacturer and your total costs are LESS.

PROFIT POINT 4 — You make a FIRST LINE of feeds, the best that money can make, scientifically developed, researched, and tested.

PROFIT POINT 5 — SWISHER supplies all the formulas for a COMPLETE line of feeds, a prestige brand name, bags, registration, personal sales service, advertising program—in short, all the things you need to be a high-powered *manufacturer* and direct seller of feeds.

PROFIT POINT 6 — You sell feeds rich in highly digestible animal protein yet lower in costs, superior feeds that are "proved by performance"—that have been widely accepted by big commercial producers, men who are best able to rate the efficiency of feeds! You open these doors when you're with SWISHER!

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☐ Have representative call.

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Company _____

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County _____ State_____

Here's a Swisher Success Story

Frank Bower, owner of Bower Mills, Olney, Illinois, has this to say about Swisher Feeds.

"I discovered that I was making *twice* as much profit, on the average, on each ton of Swisher Feed as compared to the competitive brand I was selling. I also discovered that Swisher Feeds were producing just as good or better results for my customers, but *at lower production costs!* . . . Swisher Feeds have been competitive in price and in most cases the farmer has bought them at less cost."

SWISHER FEED SERVICE

FEED DIVISION, OF WM. DAVIES COMPANY, INC., DANVILLE, ILLINOIS, HICKORY 20290

Dairy Feeding of Grain, Concentrate Continues 'Heavy'

WASHINGTON—Large feed supplies favored continued heavy grain and concentrate feeding to milk cows on June 1, according to the June crop production report issued by the U.S. Department of Agriculture.

Crop reporters fed an average of 5.81 lb. per cow, which exceeded last year's previous high for June 1 by 4%, and was almost a third above the 1948-57 average for the date, it was noted in the report. Seasonally, grain feeding rates were down 22% from April 1 as compared with the usual decline of 29% in all regions. Grain feeding rates failed to show the full seasonal decline in all regions.

Feeding of grains and concentrates was a record high level for June 1 in four regions, equaled last year's high in the north Atlantic region, and was a near record high in the West. Feeding rates jumped sharply in the west north central region—up 15% from last year's previous high for the date. All states in this region recorded new highs in June 1 grain feeding rates. Seasonally, feeding rates dropped about a fifth from April 1, compared with a usual drop of a third.

The north Atlantic led all regions by feeding 6.7 lb. per milk cow on June 1, followed by the east north central with 6.3 lb., and the west north central region with 6.2 lb. In other regions, feeding rates averaged: West, 5.4 lb.; south Atlantic, 5.3 lb., and the south central, 4.4 lb.

The quantity of grain fed was above the June 1 average in all regions, the gains ranging from 18% in the north Atlantic to 44% in the west north central.

Milk production in May was estimated at 12,595 million pounds—1% below production in May last year, and 3% below the record high May production in 1957, but 1% above the 1948-57 average for the month.

Production per cow in crop reporters' herds on June 1 averaged 24.59 lb., 2% above last year's previous high for the date, and 15% above average.

J. W. McKee of Key Milling Dies at 70

CLAY CENTER, KANSAS—J. W. McKee, president and general manager of the Key Milling Co., formula feed manufacturer here, died June 6 after an illness of several months. He was 70.

Active in the milling business of the Southwest for more than 50 years, Mr. McKee, with his son, John W., established the Key Milling Co. in 1947. Prior to that, Mr. McKee was with several flour milling companies in the Southwest.

Among the survivors are his son who is a vice president of the company.

Dr. Marion Caldwell Promoted by Moorman

QUINCY, ILL.—Dr. Marion J. Caldwell, head of the research nutrition division of the Moorman Manufacturing Co., Quincy, has been made assistant director of research, announced E. H. Wilson, president of the firm.

Dr. Caldwell joined the Moorman research staff in 1947. He received his Ph.D. degree from Kansas State University, and also attended Iowa State College. He was professor of chemistry at Kansas State for 12 years, and was on the staff of the experiment station there. He also served as assistant professor of chemistry at Rolla (Mo.) School of Mines.

John Quinlan, Retired Allied Officer, Dies

CHICAGO—John J. Quinlan, who retired as executive vice president of Allied Mills, Inc., Dec. 31, died suddenly at the Evanston Hospital June 9.

Mr. Quinlan had been an employee and officer of Allied Mills and predecessor companies for nearly 39 years when he retired. Mr. and Mrs. Quinlan went on a Caribbean cruise in February and he had been ill only a short time before his unexpected death.

Mr. Quinlan is survived by his wife, one son, two daughters, 12 grandchildren, his mother and two sisters. The funeral was held in Evanston June 12, with burial at All Saints Cemetery, Des Plaines.

Feed, Poultry Firms Combine Facilities

NASHVILLE, ARK. — The Mountaire Poultry Co. has been formed by a group of feed and poultry firms in the Nashville-DeQueen area by combining more than $2,500,000 in physical assets.

The partnership joins hatching, processing, milling, marketing and production operations of: Cassady Hatchery, Nashville; Nashville Feed Mill, a subsidiary of Cameron Feed Mills, North Little Rock; Maplecrest processing plant, DeQueen; Maplecrest Hatchery, Hot Springs; Maplecrest farms and complete growing-out facilities, and the Arkansas Poultry By-Products Co., DeQueen.

The new company will grow broilers and turkeys in Howard, Pike, Sevier and Garland counties. Some 130 poultry farms are involved in the operation, and the combined employment reported by Mountaire Poultry Co., exceeds 500 persons, both in rural areas and at the various plants and offices.

Neely Cassady, owner of Cassady Hatchery, will supervise all of the hatching and growing facilities, which will include approximately a million birds he is feeding and 500 000 chickens fed by a former DeQueen feed company operated by Maplecrest. Some 250,000 Maplecrest turkeys also will be fed through the Nashville Feed Mill.

An Arkansas Poultry Federation bulletin reported that since the entire operation is within a 50-mile radius, all of the milling and feeding will be done through the Nashville Feed Mill.

Maplecrest will handle all of the processing and marketing; turkeys will be hatched by the Maplecrest Hatchery, and Bill Brown, Arkansas Poultry By-Products Co., will continue to handle the rendering and offal from the Maplecrest plant.

The transaction also involves the transfer of live-haul facilities to Maplecrest. And, in turn, the Nashville Truck Leasing Corp., of which Neely Cassady is president, will handle all of the bulk trucks and feed transfer.

Cassady Hatchery has a capacity of approximately 86,000 chicks weekly.

Joe Scott, vice president, Cameron Feed Mill, said the partnership combination "will provide considerably greater financial strength, better utilization of facilities and the know-how to stay in under circumstances which we are facing today."

Merck Reduces Price Of Lysine Product

RAHWAY, N.J.—A 17.5¢ reduction in the price of lysine monohydrochloride has been announced by Merck & Co., Inc., Rahway. The reduction, now in effect, puts the price at $4.95 lb. for 100-lb. and 25-lb. drums.

The new price is the second reduction announced this year by Merck. In March the price was reduced from $8 lb. to $6.

Dr. G. H. Wise

Prof. F. J. Doan

Dairy Science Assn. Elects New Officers

URBANA, ILL.—A vice president and two members of the board of directors have been elected by a mail ballot to the American Dairy Science Assn., effective July 1, and will be installed at the association's annual meeting at the University of Illinois July 14-17.

Dr. R. E. Hodgson

Vice president is Dr. Ralph E. Hodgson, chief of dairy husbandry research at the Agricultural Research Service, and the new board members are Dr. George H. Wise, department of animal industry, North Carolina State College, and Prof. Francis J. Doan, dairy husbandry department, Pennsylvania State University.

These men will take office for one year. Dr. Arthur C. Fay, the present vice president, succeeds to the presidency.

The election results were announced by H. F. Judkins, association secretary-treasurer.

Grain Unit Planned At Wilmington, N.C.

WILMINGTON, N.C. — Wilmington's City Council resolved recently to construct a 200-million-bushel capacity grain storage facility on the Cape Fear River.

The resolution said that the facility would be constructed on property to be purchased from the Sprunt Corp. for $300,000. A bond issue of $1.5 million would finance the project.

Councilmen said the grain facility would be leased to Sprunt Corp. for 20 years at an annual fee of $5 000, with the funds going to pay off the bond issue.

The resolution said also that there is no big grain storage facility between Norfolk, Va., and Mobile, Ala., and such a facility is needed there as a storage and shipment point for southeastern grain.

BEST-OF-THE-NEST PUTS 'LID' ON PUBLICITY

PORTAGE, PA.—Jack F. Shaffer, who has succeeded W. H. Bancroft, Jr., as president of Best-of-the-Nest, Inc., informed Feedstuffs this week that "the lid is on"—at least for the present — further publicity of the company's plans.

It was reported late in April by Howard Hill, secretary, Greater Johnstown (Pa.) Chamber of Commerce, that Best-of-the-Nest had proposed construction of the largest single unit egg factory in the nation at Portage, near Johnstown. At that time, Mr. Hill said, plans called for housing a million birds under one roof covering more than 15 acres. (Feedstuffs, May 2.)

Mr. Shaffer, from whom it was learned that Mr. Bancroft had resigned, said his company was not releasing to the press any more information about the proposed egg plant.

Corn Planting Lags Behind '58 Pace

WASHINGTON — Planting of the 1959 corn crop was a little slower than last year, but was about 85% completed by June 1, the U.S. Department of Agriculture's June crop production report notes.

Stands were generally satisfactory, and replanting caused by washing, flooding, worms, rodents, etc., has not been extensive except in limited areas.

In Iowa, Minnesota and South Dakota, about nine tenths of the acreage was planted by June 1. Normally, nearly all of the Iowa crop is planted by that date. Progress was slow in the main corn areas of Nebraska and Kansas, and in northern Missouri and southern Iowa as wet ground retarded planting.

In Illinois, about 85%, the usual amount, was planted by June 1, but in Indiana, Michigan and Wisconsin, the rate was slower. In Ohio the usual nine tenths was in the ground by June 1.

In the North Atlantic area, planting progressed a little faster than usual and stands were generally even. In the South Atlantic area, early plantings were "laid by," but heavy rains in late May and the first two days of June drowned out some late planted acreage, particularly in Georgia.

In the South Central area early corn was in the tassel stage in the southern sections. In the Pacific Northwest, cool weather has slowed corn development. In some parts of the West, dry weather has caused heavy demands for irrigation water, and the supply for irrigating corn and other late crops may be somewhat short.

St. Joseph Club to Meet

ST. JOSEPH, MO.—The St. Joseph Feed, Seed, Grain and Fertilizer Club will hold its annual spring party and ladies' night June 20 at Heinie's Restaurant. The evening will start at 7:30 p.m. with a short business meeting followed by dinner.

Bag Firm Appoints Sales Representative

NEW YORK—West Virginia Pulp & Paper Co., New York, has enlarged its sales staff in the Midwest by the appointment of Warren A. Finberg as sales representative for the multiwall bag division, it was announced by Tom L. Jones, regional sales manager in New York.

Mr. Finberg will work out of the division's Chicago office and cover the greater Chicago area as well as northern Illinois. He will be the third member of the Chicago sales staff headed by John O. Frahm, district sales manager.

"All of Mr. Finberg's business experience," Mr. Frahm said, "has been in the multiwall bag sales field, making him ideally suited for his new post with West Virginia."

West Virginia Pulp & Paper supplies the industry with Kraftsman multiwall bags made of Clupak stretchable paper from plants in St. Louis, Wellsburg, W.Va., and New Orleans. The firm recently opened a new plant in Torrance, Cal., to serve the West Coast.

Plan New Mill

OTHELLO, WASH.—Several area cattlemen are making plans for the construction of a cooperative feed yard and a plant for the manufacture of pelleted feeds, it has been announced. The mill, to be located near here, will be called the Interstate Livestock Feeders Cooperative. Plans call for an eventual expansion of its sales program over the Pacific Northwest.

Dr. Thomas Jukes

Dr. Jukes Resigns Cyanamid Position

NEW YORK—Dr. Thomas H. Jukes has resigned his post as director of research for American Cyanamid Co.'s agricultural division, according to F. S. Washburn, division general manager.

Dr. Jukes has accepted the position of vice president in charge of research for Nutrilite Products, Inc., Buena Park, Cal.

"All of us at Cyanamid deeply regret his leaving our organization," Mr. Washburn said. "Dr. Jukes not only has an outstanding record as a research scientist, but as an excellent administrator as well. We will indeed miss him."

Dr. Jukes joined Cyanamid in 1942 as associate director of research of the pharmaceutical division, where he initiated the company's animal feed program.

In 1945, he was named director of the nutrition and physiology research section of Lederle Laboratories division, and became director of research for the agricultural division in 1954.

Dr. Jukes pioneered basic research on Aureomycin chlortetracycline and other antibiotics in animal nutrition. He has also done basic work on establishing the nutritional value of vitamin B_{12} and folic acid. In 1947, he received the Borden Award from the Poultry Science Assn.

Dr. Jukes has published 162 articles in scientific journals.

Morrell Officer New Director of Foxbilt

DES MOINES—C. B. McClelland, Chicago, treasurer, John Morrell & Co., was elected a director of Foxbilt, Inc., Des Moines, at the company's recent annual stockholders' meeting.

Other officers and directors reelected are: E. L. Fox, president and chairman of the board; Wayne A. Rodgers, executive vice president; Wayne F. Fox, J. K. Lepley and Orris Osheim, vice presidents; M. S. Diercks, vice president and secretary; F. F. Satterlee, treasurer, and Steven Garst, partner, Garst Co., Coon Rapids, Iowa, a director.

D. E. Peck was elected vice president, and Barry N. Minear, assistant secretary.

In his report to stockholders, E. L. Fox said that the company's sales during the past year reached an all-time high. The company has four operating divisions; Foxbilt Feeds, Ames In-Cross Chicks, Ames In-Cross Hogs and the Melos mobile mill division.

ELECTED DIRECTOR

ST. LOUIS—David L. Grant, vice president and director, Ralston Purina Co., has been elected to the board of directors of St. Louis Federal Savings & Loan Assn., according to E. Paul Smith, association president.

Swisher Feed Service Expands

DANVILLE, ILL.—Swisher Feed Service, division of Wm. Davies Co., Inc., is expanding its operation and putting into effect a streamlined, modernized feed service operation, according to W. L. Lavery, general manager.

"Swisher has developed a program involving an exclusive area franchise arrangement with local feed mills which grants these mills the authority to manufacture Swisher Feeds," officials said. "The program is complete in that it includes not only the basic formula ingredients, but also bags, tags, registration, sales and advertising assistance. This new program is being designed for the modern needs of localized feed mills that require assistance in formulation, research and experimental testing."

Pursuant to the implementation of this program, Mr. Lavery announces the appointment of Robert L. Freeman to the position of sales manager, who will direct the sales operations.

Concurrently with this, Henrie L. Miller becomes the advertising manager of the firm. Both men have been with the company for several years, but in other positions.

John F. Young Co. Names Representative

CINCINNATI, OHIO—The John F. Young Co., Cincinnati, has appointed Frank Ryan as its Louisville representative. The company manufactures and distributes vitamins and feed components.

Mr. Ryan was formerly manager of Seagram's grain and feed division in Louisville, and has been a well-known figure in the feed and distilling industries for many years. In his new job he will handle products made by the DuPont Co., the Cleveland Grain Co., the Rahr Malting Co., International Minerals & Chemical Corp., and Distillation Products Industries, among others.

Illinois Feed, Fertilizer Commission Planned

SPRINGFIELD, ILL.—A bill has been introduced into the Illinois Legislature and passed by the Senate, setting up a Feed and Fertilizer Laws Commission. It will consist of three members of the House, three members of the Senate, and three public members appointed by the governor.

The commission will make a "thorough study and survey of all laws" of Illinois "dealing with the feed and fertilizer businesses."

Hot Spot Appoints General Manager

DES MOINES—D. C. Stixrood, president, electronics division, Neptune Meter Co., recently announced the appointment of S. A. Mitchell, Jr., as general manager of the Hot Spot Detector, Inc., Des Moines.

S. A. Mitchell, Jr.

Hot Spot was recently incorporated into the electronics division of Neptune, along with Revere Corp. of America and Electronic Signal Co.

Mr. Mitchell, formerly comptroller and assistant to the president, assumed his new duties May 15. In addition to his duties as general manager, Mr. Mitchell will continue as corporate treasurer and secretary.

"Creation of the division brought about the need of a broader management group," Mr. Stixrood said. "Also, this closer cooperation between the three electronic subsidiaries of Neptune will result in a strengthened marketing and manufacturing structure for the three departments."

New Armour Poultry Plant in Arkansas

MURFREESBORO, ARK.—Armour & Co., Chicago, is constructing a poultry processing plant at Murfreesboro which will have an initial processing capacity of about 20,000 birds a day.

Facilities to be used in connection with the Armour plant are located in Nashville 13 miles away, according to a recent bulletin of the American Poultry Federation, Little Rock.

Arrangements for financing the plant were made with Ross Womack Farm Supply, Ray Womack Feed Mill and the Murfreesboro Industrial Development Commission. Ponder Feed Mills, Nashville, was a part of the group which helped in locating the plant.

Construction cost is expected to range between $300,000 and $350,000. Armour is furnishing the building site and processing equipment, and the local firms are providing the ice-making equipment and refrigeration. Approximately 120 workers will be employed.

JOIN STOCKTON EXCHANGE

STOCKTON, CAL. — Three new companies have become members of the Stockton Grain Exchange. They are: Golden Eagle Milling Co., Petaluma, Cal.; Grainco, Inc., Stockton, and the Cal Crost Hybrid Seed Growers, Dos Palos, Cal.

PLANNING VETERINARIAN NUTRITION CONFERENCE — Grouped around the discussion table during a recent meeting of the committee planning the Veterinarian Nutrition Conference to be held Nov. 30-Dec. 1 in Hotel President, Kansas City, Mo., are (left to right): Sitting—Dr. James Farrell, Boonville, Mo.; Dr. W. E. Poley, Zip Feed Mills, Sioux City, Iowa, chairman; Maurice Wells, secretary, Waterloo (Iowa) Mills; Dr. Chase Wilson, Consumers Cooperative Assn., Kansas City, and Dr. R. E. Lubbenhausen, Ralston Purina Co., St. Louis; standing—John Wessman, Midwest Feed Manufacturers Assn., Kansas City; Dr. C. M. Cooper, Veterinary Medicine magazine, Kansas City; Dr. Clay Knodt, Cargill-Nutrena Farm, Elk River, Minn.; Dr. James McCrea, Platte City, Mo.; Dr. James Bailey, Walnut Grove Products Co., Atlantic, Iowa, and Lloyd Larson, Midwest Feed Manufacturers Assn., Kansas City.

S.E. Group Asked To Back PENB, NBC Programs

RICHMOND, VA.—It was the consensus of the Southeastern Poultry & Egg Assn.'s broiler and egg commodity committees at their annual meetings in Atlanta recently that commercial egg production is increasing throughout the Southeast but the pace in broiler production has slowed a bit in some areas.

Reports gleaned from a cross section of representatives from every southeastern state and what they portend for the future figured prominently in the committee's recommendations to Southeastern's board of directors.

The broiler committee passed a motion recommending that the Southeastern group support the National Broiler Council retailer pricing resolution adopted at the council's recent conference in Dallas, Texas.

The egg committee recommended that Southeastern announce the association's continued support of the Poultry & Egg National Board egg financing program and urged that southeastern states make every effort to establish and meet quotas with funds to support egg promotional work.

In other action, the broiler committee recommended that Southeastern's board oppose any form of government controls for the broiler industry; commended the Georgia Broiler Auction for its success, and proposed that Southeastern appoint a research committee to study the potentials of irradiated poultry.

The Southeastern board is scheduled to meet June 15-16 at Myrtle Beach, S.C., at which time the committees' recommendations will be given consideration.

Broiler representatives attending the meeting were H. F. McCarty, chairman, McCarty Enterprises, Magee, Miss.; Shannon Skelley, Blanton Smith Hatcheries, Albertville, Ala.; C. F. Clegg, C. F. Clegg Poultry Enterprises, Pine Mountain Valley, Ga.; Dewey Sanderson, Sanderson Brothers, Raleigh, Miss.; Hulan Hall, Vantress Farms, Duluth, Ga.; Don E. Huntington, Spartan Grain & Mill Co., Spartanburg, S.C.; W. D. Moore, Jr., Southern States Co-op, Richmond, Va.; W. H. Gardner, Alloway Brothers, Nashville, Tenn.; W. E. Draper, Draper Poultry Co., Jacksonville, Fla.; Earl Carriker, Carriker Poultry Co., Charlotte, N.C.; Richard Harris, J. D. Jewell Co., Gainesville, Ga.

C. C. Ozier, Ozier Hatchery, Bowdon, Ga.; S. L. Johnston, Woodstock, Ga.; Fred G. Coats, Florida State Hatcheries, Inc., Gainesville, Fla.; Beverly G. Yeiser, Yeiser Hatcheries, Winchester, Ky., and Charlie Miller, Jr., Miller Poultry & Feed Co., Piedmont, Ala.

Egg representatives were Mays Montgomery, chairman, Dixie Home Feed Store, Athens, Ala.; Walter Tuten, Columbia, S.C.; Charley Cook, Tar Heel Hatchery, Charlotte, N.C.; I. R. Staples, Glenwood Poultry Farm, Perry Park, Ky.; W. G. Wofford, Pee Dee Hatchery, Hartsville, S.C.; Paul Davis, Southern Empire Egg Farm, Douglasville, Ga.; Claude Smith, Mississippi Federated Co-op, Jackson, Miss.; D. T. Irby, D. T. Irby Hatcheries, Hattiesburg, Miss.

E. O. Creel, Alabama Flour Mills, Decatur, Ala.; Owen L. Iler, Iler's Wholesale Distributor, St. Petersburg, Fla.; Blanton Smith, Blanton Smith Hatcheries, Nashville, Tenn.; R. J. Park, Tennessee Department of Agriculture, Nashville, Tenn.; C. E. Boggs, Georgia Egg Assn., Atlanta; Bob Goodwin, Brundidge Milling Co., Brundidge, Ala., substituting for Merlin Bryant, also of Brundidge; Ralph Kelly, Garner, N.C.; Curtis Collier, PENB southern office, Atlanta, and W. L. Walsh, secretary-treasurer, Alabama Poultry Industry Assn.

SEPEA staff members attending the meetings were J. Paul Williams, Richmond, Va.; Harold E. Ford and Walter Henderson, both of Decatur, Ga.

Canada Reports Boost In Shipments of Feed

WINNIPEG—Shipments of primary or concentrated feeds in Canada in March increased to 39,537 tons from 36,778 a year earlier, secondary or complete feeds to 223,750 tons from 202,480, and all other animal feeds to 44,531 tons from 39,621.

January-March shipments were also greater than a year ago and were as follows: primary feeds, 116,455 tons (105,676 in the first quarter of last year); secondary feeds, 639,545 (563,279); and all other animal feeds, 134,458 tons (123,468).

'SILVER DOLLAR' DAY—It was 'Silver Dollar' day recently at the Gibson City, Ill., plant of the Central Soya Co., Ft. Wayne, Ind., and the firm's feed division, McMillen Feed Mills. Shown as they took bags of silver dollars from the Brinks armored car are (left to right): Max Lovan, Gibson City plant auditor; Dick Walter, plant manager, and a Brinks guard. More than 20,000 silver dollars were paid to 238 hourly workers as part of the company's silver anniversary observance which was highlighted at the Gibson City plant with an "open house" program. The silver dollars weighed three fourths of a ton.

Central Soya Observes Anniversary With Open House at Illinois Plant

GIBSON CITY, ILL.—A new office building and a modernized soybean lecithin plant at Gibson City were dedicated recently to "the men and women of Central Soya" by Harold W. McMillen, chairman of the board of directors of Central Soya Co., Inc., Ft. Wayne, Ind.

Mr. McMillen presented silver keys for the new facilities to George R. (Dick) Walter, manager of the firm's Gibson City plant. The dedication and key presentation were part of an "open house" program held to celebrate the 25th anniversary of the company's founding by his father, Dale W. McMillen.

The board chairman pointed out that the new office building has indirectly helped provide still another service, by releasing the old office space above the feed mill for finished bagged feed storage, convenient to the loading dock.

He commented that lecithin is now being used in margarine as an antispattering agent, in chocolate to keep it from turning gray, in baked goods to maintain freshness, and in soap. He also said it may soon be used as a carburetor detergent in automotive gasoline.

Dale W. McMillen, Jr., company president, in his "open house" address, traced the growth of the company since 1939 when the Gibson City operation opened.

"From 1939 to the present time," he said, "the growth and expansion of our operations at this location have been steady and meaningful. In 1948 we completed construction of our solvent soybean processing plant. Over the years grain storage has been increased from the original 1 million bushels to a 6.5 million bushel capacity."

Donald Kincade, assistant elevator superintendent, said faster service and a better market for the farmer have resulted from modernization of the elevator department at Central Soya's Gibson City plant.

Another "open house" speaker was Bill Lynch, feed mill superintendent since 1943. He noted that the feed mill at Gibson City offers more exacting controls, increased production capacity and faster service as a result of a recent modernization program.

He cited such things as the gravimetric feeders in the McMillen Feed Mills plant at Gibson City, new pelleting facilities, improved bagging scales and new bulk feed bins.

The Central Soya Co. was founded in 1934, when in the midst of a depression, Dale W. McMillen at the age of 54 incorporated the company to process soybeans. The first shipment of soybean oil was made from a small plant in Decatur, Ind., in December, 1934. In 1935, McMillen Feed Mills, which had been incorporated as the feed division of the company, received its first order of feed. From this beginning the company has grown rapidly and includes various feed, grain and soybean operations. Annual sales are now above the $225 million mark.

Feed Industry Starts Fund Drive for 4-H

WASHINGTON—J. D. Sykes, vice president, Ralston Purina Co., has launched a fund raising program in the feed industry on behalf of the National 4-H Club Foundation.

"This program is being conducted with private enterprise in behalf of the 4-H movement, the world's largest rural youth organization," Mr. Sykes wrote in a letter to industry representatives.

Nearly 2¼ million young people are now enrolled in 4-H, including a complete line of livestock projects from rabbits to purebred cattle. Mr. Sykes pointed out, "These young people learn by doing to use the latest scientific practices with their poultry and animal projects."

Contributions to the foundation came from 139 feed industry firms in 1958. Greater participation is expected this year due to the expanded program of this non-profit, educational organization. With the formal opening of the National 4-H Club Center this summer, the foundation will be able to further serve the needs of 4-H members and leaders.

Another activity of the foundation is the International Farm Youth Exchange program, a people-to-people exchange of rural young people between the U.S. and 50 countries of the free world. A consultant service in human relations and human development assists the Cooperative Extension Service in serving its youth and other programs.

Named Editor-in-Chief

ST. PAUL, MINN.—William H. Kircher, managing editor of The Farmer, has been appointed editor-in-chief, it was announced recently by W. E. Boberg, vice president of the Webb Publishing Co., St. Paul, publisher of the magazine. Mr. Kircher succeeds Berry H. Akers who will retire after 43 years of service with the publication, the last 25 as editor-in-chief.

Grain Elevator Group Elects Officers

CHICAGO—Lester R. Bailey, Central Soya Co., Chicago, was elected president of the Chicago chapter of the Grain Elevator & Processing Superintendents at the annual outing of the organization at the Midlothian Country Club in Chicago recently. More than 50 members and guests attended the meeting and dinner.

Other officers elected are: Edward A. Roelle, A. E. Staley Manufacturing Co., Chicago, first vice president; Edwin J. Wallin, Wallin Supply Co., Chicago, second vice president, and Roger E. Sayre, Illinois Grain Terminal Corp., Chicago, secretary.

Directors are: Ellis P. Maas, Screw Conveyor Corp., Hammond, Ind.; James R. Everett, S. Howes Co., Inc., Aroma Park, Ill.; W. Everett Sallman, Central Soya Co., Chicago; Robert C. Edgren, Continental Grain Co., Chicago, and Adolph Swendsen, Cargill, Inc., Chicago.

Fred Adams, Imperial Belting Co., Chicago, won the low net to take the golfing award. Several other prizes were awarded to the ladies present.

Appointment Noted

SPOKANE, WASH.—The firm of Gordon T. Shaw, Spokane, Inc., has announced the appointment of Gordon C. Kauffman, formerly assistant manager, to the position of vice president and manager, effective July 1.

Mr. Kauffman succeeds Vern S. Savitz, who has resigned as Spokane manager due to ill health.

Arkansas Jaycees Plan 'Drumstick Party'

SPRINGDALE, ARK.—The Arkansas Jaycees will provide about 15,000 chicken drumsticks at the annual national convention of the Junior Chamber of Commerce in Buffalo, N.Y., June 15-18.

The "Drumstick Party," which has become an annual affair at the convention, is financed by the Arkansas poultry industry, and is given by the Arkansas Jaycees in tribute to the state's second largest industry.

Official hostess at the party will be Miss Suellen Martin, Berryville, Ark., who recently was selected as Miss Arkansas Chic at the Poultry Festival at Russellville, Ark.

As in past years, the Springdale, Ark., Jaycees are in charge of the drumstick party.

DRUMSTICK QUEEN—Official hostess at the "Drumstick Party" to be sponsored by the Arkansas Jaycees at the national convention of the Junior Chamber of Commerce, will be Suellen Martin, recently selected as Miss Arkansas Chic at the Poultry Festival at Russellville, Ark.

Cargill Purchases Sioux City Company

SIOUX CITY, IOWA—The vegetable oil division of Cargill, Inc., Minneapolis, has purchased Sioux Industries, Inc., Sioux City, it was announced by Fred M. Seed, vice president of the division.

Properties acquired include the Sioux Soya plant, Sioux Feed Mills and the 300,000-bu. capacity elevator "B" here, the Western Feed Mills, Sioux Falls, S.D. E. N. Grueskin, president of Sioux Industries, said takeover date is July 1.

Cargill plans immediate construction of a 1.1-million-bushel storage elevator adjacent to the soybean plant, Mr. Seed said, and will add a 1,500-bu.-per-hour dryer, combination hydraulic truck dump and scale, and conveying equipment between the elevator and plant. "We expect to have all facilities completed in time to accept this year's crop," he added.

Cargill also plans to enlarge the plant's processing capacity—now approximately 250 tons per day—but has yet to establish specifications and a construction timetable, Mr. Seed said. The plant serves parts of Iowa, South Dakota, Minnesota and Nebraska.

"No personnel changes are planned," Mr. Seed said. "The facilities, and the some 85 persons working in them, will continue operating as before. We also will continue marketing Super Soo brand feeds."

Supervisory responsibilities will be assigned to M. D. McVay, assistant vice president of the vegetable oil division, Minneapolis. Construction will be directed by James R. Randall of the vegetable oil general superintendent's office.

Wirthmore Promotes Two Staff Members

WALTHAM, MASS.—New heads of the poultry feeds sales and agricultural relations departments of Wirthmore Feeds, Inc., Waltham, have been named by Robert F. McLeod, president of the firm.

Harry A. Grant is the director of agricultural relations, and Lawrence L. Peterson is director of poultry sales and service. Mr. Grant was formerly director of poultry sales and service, and Mr. Peterson has served the firm as assistant sales manager and as administrative assistant in the sales department.

In his new position Mr. Grant will represent the company in contacts with federal and state agricultural authorities, state land grant colleges, and other agricultural organizations and agencies in the company's trade territory. He is a member of the executive committee of the Poultry & Egg National Board.

Mr. Peterson, a native of Washington and a graduate of Washington State College, joined Wirthmore in 1954, having previously served as assistant sales manager for the former Kasco Mills, Inc.

Appoints Ad Agency

DANVILLE, ILL.—W. L. Lavery, general manager, Swisher Feed division of Wm. Davies Co., Inc., Danville, announces the recent appointment of Jackson, Haerr, Peterson & Hall, Inc., as its advertising agency to direct a new and expanded feed service merchandising program for localized feed mills. The account will be handled out of the agency's Peoria office by Alvin R. Haerr.

Work Progresses

LENNOX, S.D.—Construction work continues to progress on the feed mill being built here by Nutrena Mills, Inc. Footings were poured recently for an additional structure — the framework for four tanks which will each hold up to 50 tons of ingredients.

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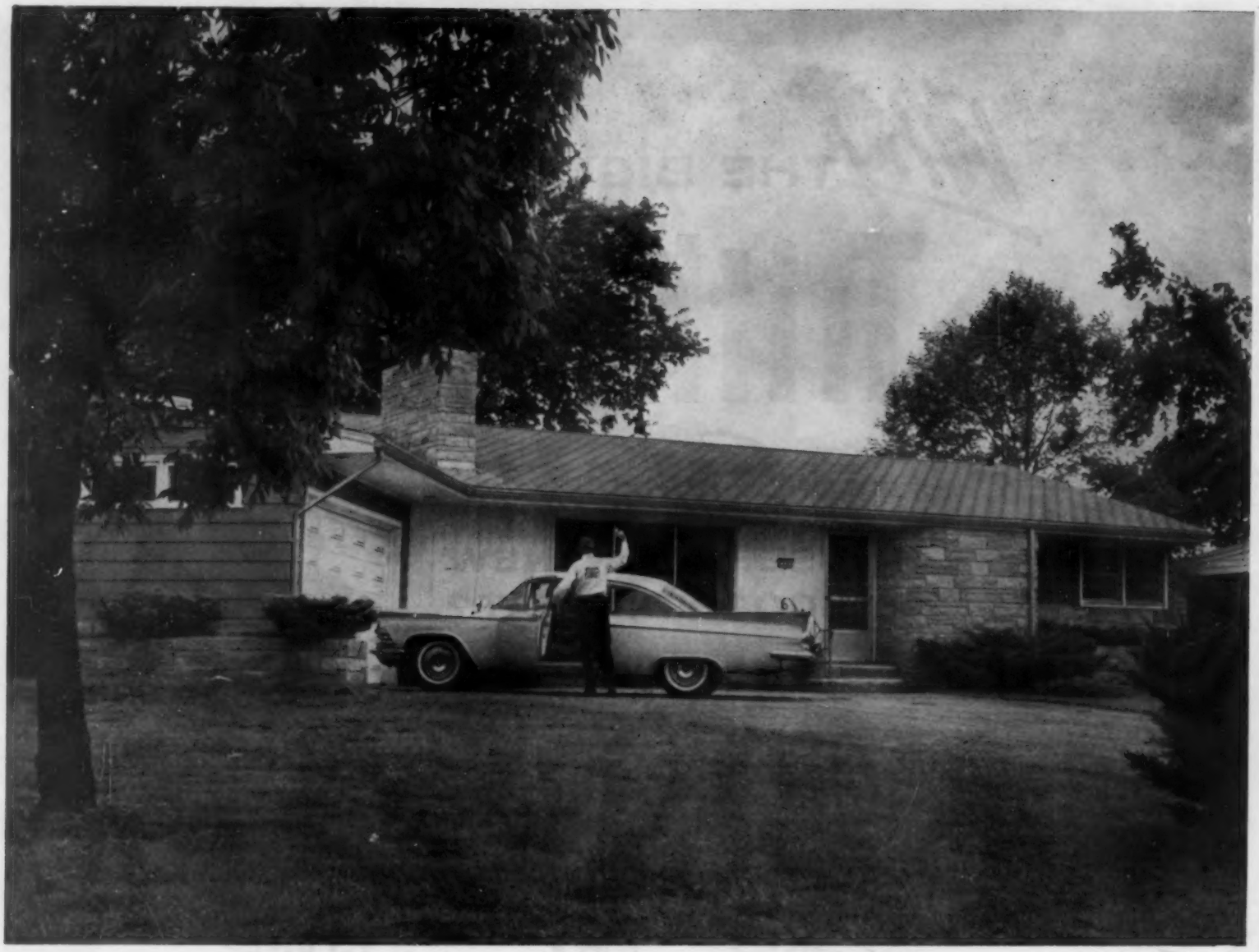

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- You CAN sell the big volume customer—the help you need to finance the BIG feeding operations is yours with a Staley's Feed Dealership.

There are many more ways a Staley's dealership can help you! So, if you are not receiving all the profit you want from your present feed business, a Staley's franchise could well be your way to extra profits and a better way of life for you and your family. A Staley Representative will visit you at your convenience . . . mail the coupon to learn how you can make extra profit and live better when you SELL STALEY'S ALL THE WAY!

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Georgia Specialist Tells How to Figure Cost of Dozen Eggs

ATHENS, GA.—To answer numerous requests from commercial operations about the cost of producing a dozen eggs, Dewey McNiece, extension poultryman, University of Georgia, provided the accompanying tabulated breakdown.

He said feed cost is almost 60% of the total and flock depreciation is slightly over 20%.

"Many poultrymen attempt to reduce the cost of producing eggs by crowding their birds," he commented. "Total housing cost which includes interest on investment is less than 3% of the cost. It would require less than one egg per hen per year to pay the difference in each additional one half square foot of space provided each bird. There will probably be a loss of several eggs per bird under crowded conditions. However, it is possible that during periods of high egg prices the total income from a house could be slightly more when birds are crowded."

Mr. McNiece suggested that egg producers attempt some savings in feed cost by reducing feed wastage and buying in larger quantities to get a lower price.

Labor cost in the table, he said, is figured for a "reasonably efficient" operation. The labor necessary to care for laying hens varies from approximately 30 minutes to two hours per hen per year, according to Mr. McNiece, who noted that the table shows a practical mechanized house costs less than one half cent per dozen eggs.

Cost of Growing a Pullet
(22 weeks old)

Chick cost	$0.45
Feed cost:	
(a) Starter (4 lb. @ 5c lb.)	.20
(b) Grower (18 lb. @ 3¾c lb.)	.675
Mortality cost (figured at 4% mortality)	.033
Housing, equipment, labor, interest, insurance and brooding @ 1c per week	.22
Vaccination, medication, debeaking and miscellaneous	.072
Total	$1.65

Cost of Producing a Dozen Eggs
(figured at 20 doz. eggs per hen per year on hen housed basis)

Flock depreciation cost per dozen	$0.0670
Cost of growing a pullet...$1.65	
Salvage value of 4½ lb. bird @ 8c per lb. (calculated to include 1% per month mortality) 0.317	
Per bird depreciation $1.333	
Housing cost per dozen (laying flock) @ 2½ sq. ft. per bird @ 40c per sq. ft. depreciated over 20-year period	.0025
Equipment cost per dozen (includes the following): (Automatic waterers, mechanical feeders, egg baskets, nests, overhead track and carrier, egg cooling unit and insulated doors for egg room, egg grader and egg washer) $0.90 per bird depreciated over 10-year period	.0045
Interest on investment cost per dozen (laying house and equipment—interest on pullet phase already included)—$1.90 per bird @ 6%	.0057
Labor cost per dozen (45 minutes per hen per year @ 75c per hour)	.0281
Feed cost per dozen (feed @ $75 per ton 4½ lb. of feed per dozen eggs)	.1690
Miscellaneous cost per dozen	.0150
Total	$0.2918

'58 Fish Meal Output Declines; Imports Up

WASHINGTON — Production of fish meal and scrap in 1958 by U.S. and Alaskan firms reporting to the Bureau of Commercial Fisheries by months totaled more than 226,000 tons, the Fish & Wildlife Service reports. This is a decline of 14,000 tons or 6% compared with 1957.

With the exception of tuna and mackerel, all types of fish meal and scrap were processed in smaller quantities than in 1957.

The yield of fish solubles in 1958 amounted to 209.8 million pounds, an increase of 22 million pounds (12%) from 1957. Production of homogenized-condensed fish — 50.6 million pounds—declined 6.2 million pounds or 11% below the quantity in 1957.

Imports of fish meal during 1958 amounted to 100.0 thousand tons, an increase of 24% over the previous year.

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. . . whether the load
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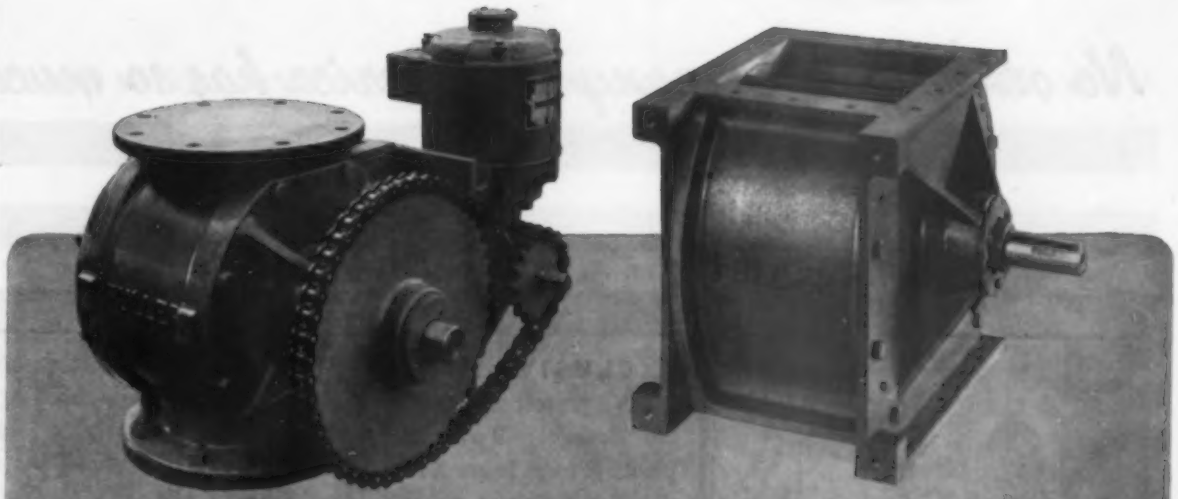

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Fuller Vane Type Feeder with rectangular flanges.

Fuller Vane Type Feeders assure you of dependable handling of dry, pulverized and granular materials. They're available in capacity ranges to meet all normal plant requirements, and are built with circular or rectangular outlets. Check these Fuller cost-saving features . . .

Extra-rugged construction. Heavy, cast iron body walls and headplates add rigidity, longer life. Stainless or other metals can be used where sanitary or corrosion requirements demand their use.

Sealed bearings are equipped with Alemite fittings for ease of lubrication and long life. Abrasive particles can't enter, maintenance is cut.

Make effective air locks. Fuller Vane Type Feeders can be used as air locks for pressure differentials up to 3½ lbs.

Stuffing boxes and ball bearings for vacuum, low-pressure and general applications.

And, where extreme volumetric accuracy without pulsation is needed, there's a line of Fuller Roll Type Feeders. For full details on Fuller Feeders write for Bulletin.

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DOUBLE YOUR TONNAGE

Watch this area each month for a new dealer who has Doubled His Tonnage and Tripled His Profits on the Honegger Program.

Bert Lilly
LILLY BROS. SEED COMPANY
Hopkinsville, Kentucky

To PROGRESSIVE FEED DEALERS

Honeggers' presented us with a real challenge last March at a meeting in Mayfield, Kentucky. We were told that we could double our tonnage and triple our profits with the Honegger Exclusive Area Franchise.

Since that time, we have been backed by a solid program of quality products, proven selling methods and tremendous enthusiasm by the entire Honegger organization.

Our tonnage has more than doubled since that March meeting! Additional sales of Honegger Farm Buildings, Big "H" Livestock and Poultry Equipment and National Champion Honegger Layers have added to our volume and our profits.

These are just a few of the reasons why we're glad to be a Honegger Dealer and why we feel it's the franchise for any good feed dealer.

Bert Lilly

LILLY BROS. SEED CO.

No other feed company in America has so much to offer! →

EXCLUSIVE TERRITORY protection gives the Honegger Dealer plenty of room to grow. A piddling dealer at every little crossroads is not Honeggers' idea of effective distribution.

DEALER TRAINING schools at Fairbury-Forrest and monthly district meetings help Honegger dealers and their sales personnel make sales through service. Their know-how and self-confidence makes selling easy, more effective.

SALES ASSISTANCE from well trained, enthusiastic district managers produces new business and keeps Honegger dealers inspired. Product specialists, such as building and equipment salesmen, help dealers close big sales.

LOCAL PROMOTIONS and "Planned Selling" that move 75-150 tons of feed out of the dealer's stores are not uncommon for Honegger dealers—with bulk of business on cash basis, too. Honeggers help plan and man open houses, hay-makers and ice breakers.

TRIPLE YOUR PROFITS

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SINGLE SOURCE OF SUPPLY gives Honegger dealers over 190 products sold by no one else in his territory. Combination shipments reduce freight costs, cuts dealer's equipment inventory because you are only a few days away from Honeggers' warehouse.

HONEGGER RESEARCH FARM has attracted over 40,000 visitors in past ten years. Practical research and convincing demonstrations here keep dealers and customers sold on Honegger know-how, and produce more dealer profits!

PATRONAGE DIVIDEND gifts make real boosters of farm wives and kids. Coupon-saving customers get valuable premiums direct from Honeggers without bother or expense on dealer's part. Result: terrific customer loyalty . . . REPEAT PROFITS!

BULK FEED SERVICE at Honeggers' employs king-sized fleet of hopper cars and modern bulk trucks. Honeggers' bulk farm bins are profit-makers that help dealers sew up business.

Nebraska, Illinois Feed Men Explain Mill Operations, Outline Views on Grinding and Mixing

"Any elevator or mill that is in the feed business and is going to stay in the feed business must consider the services that it is going to offer. The day of order-takers is over. If you are going to sell feeds to a customer, you will have to give that customer the service and the product he demands. Records and experiments seem to indicate that complete feeds are here to stay, regardless of whether they are pelleted or just ground and mixed. If you don't want your competitor to be taking your customers, then you must seriously consider the investment that it takes to be in the feed business in the right way."

That is how a Nebraska elevator and mill operator summed up his remarks on grinding and mixing operations. This dealer was one of three feed men taking part in a panel discussion of grinding and mixing at a recent milling and bulk feed seminar sponsored by Kent Feeds, Inc., Muscatine, Iowa, for its dealers.

The seminar brought together Kent dealers who described their own operations and offered suggestions on such things as portable mills, grain banks, grinding and mixing and bulk feed handling. The seminar, held in Muscatine, was attended by some 300 Kent dealers and guests.

The discussion of grinding and mixing was moderated by O. W. Joiner, vice president and general manager of Kent Feeds. Panel members were Erwin O'Neill, O'Neill Grain Co., Willis, Neb.; Wilbur Nicol, Carroll Feed Service, Mt. Carroll and Shannon, Ill., and Bob Jones, LaHarpe (Ill.) Feed & Grain.

About a year ago, Mr. O'Neill saw an opportunity for his grain firm to get into the production of complete feeds. The firm had been operating a Champion mobile unit, and continues to provide mobile service. In addition, mixing and pelleting facilities were installed in a stationary mill which is now part of the country elevator operation. The firm uses local grains plus concentrates from Kent's Sioux City, Iowa, plant to custom-make complete feeds, nearly all of which are pelleted.

A modification of the grain bank system is used. Farmers bring in grain in amounts of, say, 500 or 600 bu., the O'Neill Company buys the grain, and then grain is sold back to them at the same price when they want it in mixed rations.

EDITOR'S NOTE: This is the second of a series of articles summarizing discussions at a recent Kent Feeds dealer seminar on feed milling and bulk handling. This article reviews the panel discussion of grinding and mixing operations.

The plant is now using a Fords grinder with a 30 h.p. motor, a unit which was already on the premises, although it is smaller than desired. This, Mr. O'Neill said, is sufficient for 50 to 70 tons a day if grain is ground ahead of time. The mill is set up so that it can grind continuously into three overhead Butler tanks, for ground hulled oats, ground corn and ground oats. The ground material is discharged into a weigh buggy, and from there it goes into a 3-ton vertical mixer. The plant also has a molasses mixer. "I am sold on molasses application as a profitable business," Mr. O'Neill commented.

"I'd say 99% of our business is custom mixing," Mr. O'Neill explained. "We do not attempt to sell a man a complete feed but ask him to bring grain to us or buy grain from us and let us prepare it. We charge only for the services we render, such as grinding-mixing and pelleting."

The farmer calls in when he wants feed, and then it is mixed and probably pelleted and is ready when he wants it. The grains have been ground previously and are in the ground grain bins.

No grain is returned to a farmer that is less than No. 2 quality. If he brings in No. 3, he is penalized the difference in price between No. 2 and No. 3. "I feel that it is to the farmer's best interests as well as ours that the quality of the product be maintained," Mr. O'Neill said.

Service Charges

Incoming grain is weighed on a 60,000-lb. Fairbanks Morse scale. Everything going back into mixes is weighed through a weigh buggy. "From that standpoint, we sell the farmer the ingredients rather than a ton of feed," Mr. O'Neill said. "We sell the corn and supplement, so that when he gets his sales ticket, the ingredients are listed along with our service charges. We charge $2.50 per ton for grinding and mixing and $4 per ton for pelleting. About 95% of our ground and mixed feed is sold in pellet form."

Weight of grain sold to the farmer is based on the weigh buggy weights. There is only very minute shrink between the weigh buggy and delivery of the completely processed feed into the truck or wagon.

Finished pellets go into three holding tanks for complete rations.

The firm has just started using bulk concentrates and is building some bulk bins for concentrates. Also to be added are some bulk bins for finished feeds. Purchase of a bulk delivery truck is planned, too.

If incoming corn is wet, it is dried so that there will be good corn in the feed, and the price paid for the corn is discounted. There is no charge for handling grain. Getting corn in larger lots offsets the need for a charge, it was indicated. The firm does not have a sheller at the plant. Mobile

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shellers are widely used in the area.

Some 70% of the feed is picked up by the feeders. The other 30% is delivered with a grain truck and elevators. Mr. O'Neill charges a minimum fee of $1 per ton for delivery within five miles and $1.50 per ton when it is more than five miles. About 90% of the delivered feed is put directly into feeders in the feedlot.

Two men work in the stationary mill—a foreman and one worker. One of these men also handles out-of-the-warehouse sales. A truck driver picks up feeds from the Kent Sioux City plant and also makes deliveries. Mr. O'Neill is engaged in re-sale, over-all supervision of the elevator and checking on the mobile and stationary mills.

Pelleting

Asked about pelleting, Mr. O'Neill said: "We decided that for a rather small cost, we could install a small, used Master model California pellet mill. At the time, we considered the value of steam but decided we would start with water or water application. Now, we are installing steam to speed our operation and improve hardness of the pellets."

An auger takes feed from the meal tank into the pellet mill. All of this is done with push buttons in a system which was described as "quite automatic."

Pelleting capacity now is 20 tons per 10-hour day. With steam, said Mr. O'Neill, it will go at least 30 tons, and with another unit, capacity would be 60 tons in 10 hours. A pellet cooler is used now, and being checked out is the possibility of a larger cooler. Pellets are screened before they go into the cooler and after they come out. There is a dust collector behind the cooler to pick up fines.

"This pelleting is a mushrooming business," said Mr. O'Neill.

The mill also has a corn cracker. In fact, another reason for installing steam facilities is to have steam available for cracked corn. There is a demand for this product with added molasses.

Asked about portable vs. stationary milling, Mr. O'Neill commented: "It's my observation that both units have a place. However, I feel the stationary unit is more profitable."

Molasses is added on both the portable and stationary units. No ear corn grinding is done at the stationary mill, but the mobile unit does a large amount of it for dairymen.

Changes in Mill

Mr. O'Neill was asked what changes he would make if he could arrange his mill differently. He said: "Realizing that we set up our mill and tried to use what we had, there are many suggestions I could make for building a mill from the ground up. I would have at least a 50 to 75 h.p. grinder. I would have a holding bin directly over the pellet mill that would have at last 5-ton capacity. I would like an automatic weigher for ingredients rather than a weigh buggy, and I would have holding bins for material so located that they would be directly over and would feed into the automatic scale. I don't believe I would go to a larger pellet mill than the Master model. I would rather consider going into more small pellet mills. I would consider having holding bins for complete feeds elevated above the ground to help solve the problem of fines in pellets. If you have to convey pellets back and forth to get them into a vehicle, you are adding fines every time. I would prefer to have a higher leg, drop into a bank of six holding bins which would be elevated and thereby flow by gravity into my truck or delivery wagon."

The plant, it was noted, now has three holding bins for finished feeds but will add three more, probably elevated.

Scheduling

Explaining how feed is ordered and scheduled, Mr. O'Neill said customers usually call in and order one or two tons for the next day. Customer order cards are made up which are used in allocating the customer's time in the mixing schedule. If the schedule is crowded for the following day, the customer is asked what time would be most convenient for him, and an effort is made to arrange the schedule to suit the customer. If a farmer doesn't arrive at the appointed time, feed can be put into either of two other bins, which prevents delays. Generally, customers are very good about coming in at scheduled times.

If the order calls for just grinding and mixing and not pelleting, the firm waits until the customer comes in and then mixes his product. The grain has been ground previously, so "wait" time is very slight. The feed is delivered directly from the mixer.

Asked whether his charges were covering his costs adequately, Mr. O'Neill replied: "I find that there is a certain amount of fixed costs. I feel that the first 7 tons are needed to defray fixed costs such as labor, depreciation, etc. Until you reach 7 tons

Feed men from Illinois and Nebraska were on hand at the Kent Feeds seminar for dealers to explain their own operations and answer questions on grinding and mixing operations. Members of the grinding and mixing panel, along with Kent executives, are shown here. Standing is W. F. Schafenacker, Kent sales manager, who was presiding. Seated left to right are: O. W. Joiner, Kent general manager, the moderator; Wilbur Nicol of Shannon, Ill.; Bob Jones of LaHarpe, Ill., and Erwin O'Neill, Willis, Neb.

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a day, you'll probably be in the red. I feel that any stationary mill with a pellet mill must depend on at least 7 tons a day. You can work on less if you consider the profits on ingredients such as supplements, molasses and grain."

In addition to the grinding and mixing and pelleting charges mentioned above, Mr. O'Neill noted that he charges 3¢ bu. for cracking or rolling and 5¢ bu. for hulling. There is no extra charge for mixing molasses, other than the cost of the molasses.

In purchasing grain, the company does not buy more than a month's supply from a farmer using the mill's services. The customer is charged the same price paid to him originally if he takes out his supply in a month. After that, a storage charge of 1½¢ bu. is made.

As for investment required in a milling set-up, Mr. O'Neill noted that the cost would vary, depending on building, equipment available, etc. "I feel you can start from scratch and have a grind and mix installation for about $40,000," he said. "If a man has an elevator at present and is in the feed business, he can get into this type installation for around $15,000, not counting a pellet mill."

"There is no question that a man also should add pelleting."

Mr. O'Neill pointed out that he had purchased used pelleting equipment and that his investment was low.

At any rate, he went on, "If you don't want your competitor to be taking your customers, you must seriously consider the investment it takes to be in the feed business in the right way, which means giving the customer the services and products he demands."

Illinois Operation

Mr. Nicol explained that his firm's mill facilities at Mt. Carroll and Shannon, Ill., are almost exactly the same. Equipment at Shannon includes a 75 h.p. Jacobson hammermill, Roskamp huller-roller, two Kelly-Duplex 3-ton mixers, a Triumph sheller, Universal legs, Kelly-Duplex truck hoist, Jacobson double chain drag with Reeves variable speed control, 30 ft. Fairbanks Morse scale. The machinery at Mt. Carroll is identical except that the plant now has just one 2-ton mixer and has a shorter scale.

The Shannon mill was built after the mill at Mt. Carroll was constructed. One of the principal changes in the second mill was a larger pit—250 vs. 100 bu. The larger pit is a definite advantage, said Mr. Nicol. The hammermill or other machines are fed directly from the drag which discharges the pit.

Because of a difference in types of farms in the two communities, much more shelling is done at Mt. Carroll. However, Mr. Nicol feels that a sheller is a definite necessity in either mill, particularly for the person who brings in ear corn to make poultry feed, for example.

Most of the grain brought in for mixing is taken by the farmers themselves, but the firm has bought a bulk delivery truck and now more of the feed is hauled out by the feed firm. Some farmers bring in oats and then buy corn to add to the ration they want, and some now buy their entire grain needs.

Much of the feed is now put directly into feeders on the farm. Except for some periods in March, there has been no trouble in getting around with a truck in feedlots.

Mr. Nicol noted that they do not have a crusher ahead of the hammermill in either plant. "If we were doing it again," he said, "I would definitely install a crusher ahead of the mill to break up ear corn."

Asked about pelleting, Mr. Nicol said: "We always stop thinking about pelleting when we see how much it costs to buy a pellet mill. The information I have is that pelleted feed is not worth the price of pelleting anyway as far as total rations are concerned, although I guess some people will disagree with that."

Grain Bank

He said that the firm has a sort of grain bank arrangement on oats but does not feel the need for it on corn since a neighboring company has a corn shelling and storage business and the Carroll Feed Service buys corn from this company.

At Mt. Carroll, the firm has three men and a woman does the bookkeeping. At Shannon, there are three men, including Mr. Nicol.

As for charges, Mr. Nicol said: "We charge 10¢ cwt. for shelling corn, which comes to about 6¢ bu. I know that's higher than most country shellers charge, but we haven't had any complaints as we do small batches and get rid of the cobs for them. We fine-grind hog feed (sow feed) for 15¢ cwt. For coarser grinding, we charge 13¢ cwt. For hulling and rolling we charge 25¢ cwt. We charge nothing for mixing if they buy the concentrates from us. When we have to sack feed, we charge 10¢ cwt. and furnish the sacks. On delivery we charge $1.50 per ton for bulk, with a $4 minimum charge. In other words, we will deliver three tons for $4.50 or one ton for $4."

At times, depending on season and weather, farmers have to wait in line for grinding and mixing. "We've installed a new mixer at Shannon to take care of part of this overload," Mr. Nicol said. "Actually, I don't think anyone has complained too much about waiting. I think it is a pretty good advertisement to have a bunch of trucks waiting at your mill."

The one bottleneck in the mill is the oat roller, Mr. Nicol said. With the capacity of the unit used, the rest of the operations are slowed down if a farmer comes in with, say, 200 bu. oats to roll.

To cut down on labor costs and to get a bulk discount on Kent concentrates, the firm installed four Butler bins for holding concentrates used in the mill at Mt. Carroll. A similar setup will be installed at Shannon. A weigh buggy is used to weigh out the concentrates.

Mr. Nicol also noted that three Butler bins of 22 tons each had been bought to hold bulk, pelleted feed

(Turn to MILL OPERATIONS, page 103)

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Labor Efficiency in Formula Feed Production

By Carl J. Vosloh, Jr.
U.S. Department of Agriculture

EDITOR'S NOTE: The accompanying article is the text of a preliminary report by the Marketing Research Division, Agricultural Marketing Service, U.S. Department of Agriculture. The report tells of findings in a study conducted by USDA with the help of the Midwest Feed Manufacturers Assn., Kansas City. As explained in a preface to the report, the Midwest Feed Production School Committee assisted USDA in preparing the questionnaires used to obtain data on costs of formula feed operations. Production labor costs for June, 1958, were requested in the first questionnaire, and total costs for the formula feed operation during the plants' last fiscal year were obtained in the second questionnaire. These questionnaires were sent to a mailing list comprised of members of the Midwest association and enrollees in Feed Production Schools in recent years. USDA was responsible for all of the basic planning, analysis and preparation of the report. The data, it was explained, are being published in a preliminary report in order to make them available to the industry even though more information is necessary before a detailed analysis can be made. Subsequent surveys are planned to obtain this additional information. The author of the report, Carl J. Vosloh, Jr., is an agricultural economist in the market organization and costs branch of the Agricultural Marketing Service.

INTRODUCTION: Formula feed production reached an all time high in 1958, an increase of about 40% over the 1949 tonnage. Costs of operating a formula feed plant also have changed considerably in recent years.

As has been the case in many other industries, capital expenditures for plant and equipment have been made which have reduced the amount of labor required per unit of output. In the prepared animal feeds industry the production man-hours required to produce a ton of formula feed decreased about 10 minutes per year between 1947 and 1954, according to the Census of Manufacturers. This implies a reduction of about 25% during the entire period.

Numerous government and industry studies have analyzed the total costs and production labor costs of operating these formula feed mills. Some of them have studied the costs of performing specific operations through detailed observations.

While the over-all cost studies have value in giving a general efficiency setting for the industry and the relative position of any given plant in this industry setting, additional efficiencies can be achieved only by more detailed analyses of specific operations. In this preliminary report, some information on the influence of volume on production labor inputs in specific cost centers or operations will be summarized. Later surveys and analyses will study production labor in each of the specific operations performed in the industry to (1) further analyze the influence of volume on production labor inputs in specific cost centers, and (2) to determine within volume groups which major types of equipment and operating techniques appear to be the most efficient in the use of production labor and capital expenditures.

METHODOLOGY: The data upon which this preliminary report is based were obtained primarily from a mail survey of plants regarding physical inputs of production labor and outputs of formula feed during the month of June, 1958. Data on inputs of production labor and the outputs of feed were obtained for each of the seven major operations or cost centers involved in the mixing of feed.

Uniform definitions of the operation in each of these cost centers were made available at the November, 1956, meeting of the Midwest Feed Production School. The following is a brief summary of the operations included in each cost center.

I. Ingredient Receiving. The cost center begins as the railroad car or truck is located at the unloading point.

The cost center ends as the raw materials and supplies are located at the point of rest either in the holding bins or in the receiving warehouse. It includes the work of turning or reconditioning all ingredients.

II. Grain Processing. The cost center begins with the grain to be processed in the grain storage bins.

The cost center ends as the processed grain is located in either mixing bins or ingredient storage bins.

III. Mixing. The cost center begins with the point of storage of the ingredients used in mixing.

The work includes the movement of all materials into the mixing area, weighing ingredients, and the actual mixing of premixes and the formula feed.

The cost center ends as the mixed feed comes to rest in holding bins at the next cost center.

IV. Pelleting. The cost center begins with the mixed feed located in holding bins over the pellet machines.

The cost center ends as the pellets or crumbles are moved into holding bins, either for packing or for bulk delivery.

V. Packing. The cost center begins with the mixed feed in the holding bins over the packers, or the holding bins over the molasses blenders.

The cost center ends after the bags leave the sewing machine.

VI. Warehousing. The cost center begins after the bags of finished feed leave the sewing machine, ready for shipping or warehousing.

The cost center ends after the rail cars and trucks have been loaded and ready for transport.

VII. Maintenance. This cost center includes all regular and preventive maintenance work throughout the mill.

In view of the availability of these cost center definitions and the school's "Cost Standards," many of the participating companies were expected to have used some or all of these cost center definitions in reorganizing their cost records. For this reason the assistance of the Feed Production School and Midwest Feed Manufacturers Assn. was enlisted to help collect the basic information.

Specific plant information concerning the physical inputs and outputs for each specific cost center or operation was made available for 63 plants. Thirty-seven of these plants had previously adopted the use of these definitions. The remaining 26 used these definitions and maintained daily timecards for each production worker during the month of June, 1958, in order to cooperate.

Seventeen of these 63 plants mixed less than 20,000 tons of feed per year, 16 mixed between 20,000 and 34,999 tons, 10 mixed 35,000 to 69,999 tons, and 20 mixed 70,000 tons or more of feed per year. A few very large plants were included among the cooperators.

Total operating cost records for the last fiscal year were also requested for each cooperating plant. Since none of the very large plants and less than one half of the remaining smaller plants supplied these data, only a brief reference will be made to these annual cost records in this preliminary report.[1]

COST RELATIONSHIPS: Production labor costs are an important element in the cost of operating a formula feed mill. An analysis of the annual total costs of operating a formula feed mill, including procurement and selling costs but excluding the costs of ingredients, indicates that production labor costs represent between 40 and 66% of the total costs of operation.

These annual cost records also indicate that there is a tendency in the plants studied for production la-

[1]The response to this portion of the survey seems to indicate that only the companies having small and medium size plants have an interest in or a need for uniform accounting records covering their entire operations. Production cost information, however, seems to have a value to all companies, regardless of plant size.

TABLE 1. Production Man-hours Required per Ton of Mixed Feed Produced in Plants With Different Volumes, by Cost Centers*

Cost centers	0-1,399 tons per month: Industry average†	0-1,399 tons per month: Industry cost standard‡	1,400-2,899 tons per month: Industry average†	1,400-2,899 tons per month: Industry cost standard‡	2,900-5,800 tons per month: Industry average†	2,900-5,800 tons per month: Industry cost standard‡
Ingredient receiving	.268	.175	.192	.087	.218	.079
Grain processing	.566	.041	.429	.021	.098	.009
Mixing	.646	.368	.285	.158	.169	.136
Pelleting	.224	.128	.152	.081	.168	.051
Packing	.884	.190	.352	.119	.300	.097
Warehousing	.385	.724	.450	.337	.396	.292
Maintenance	.191	.173	.135	.164	.129	.140
Total	3.164	1.799	1.994	.967	1.479	.804

*Each cost center contains its share of foreman's time.
†Average for plants reporting in its respective volume group.
‡Industry cost standards for model plants with volumes approximately midway of the volume group.

FIGURE 1. Processing Cost Center—Inputs of Production Labor and Volume Handled per Plant, June, 1958

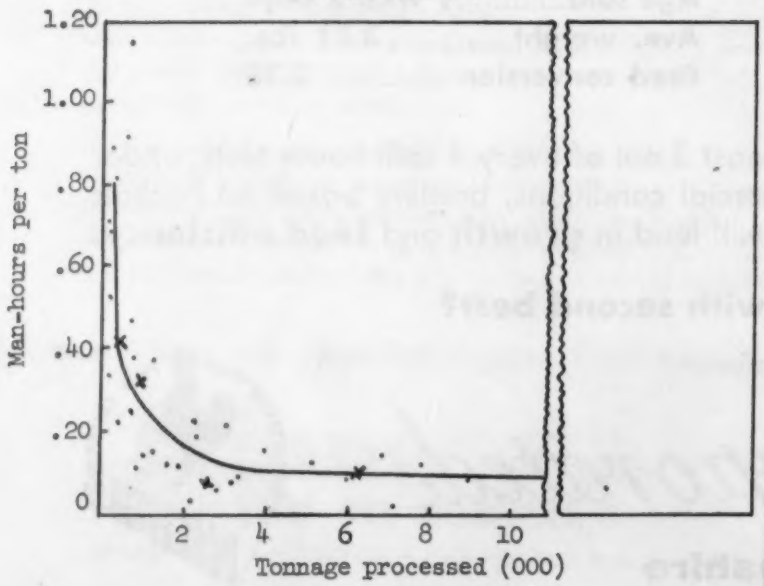


FIGURE 2—Mixing Cost Center—Inputs of Production Labor and Volume Handled per Plant, June, 1958

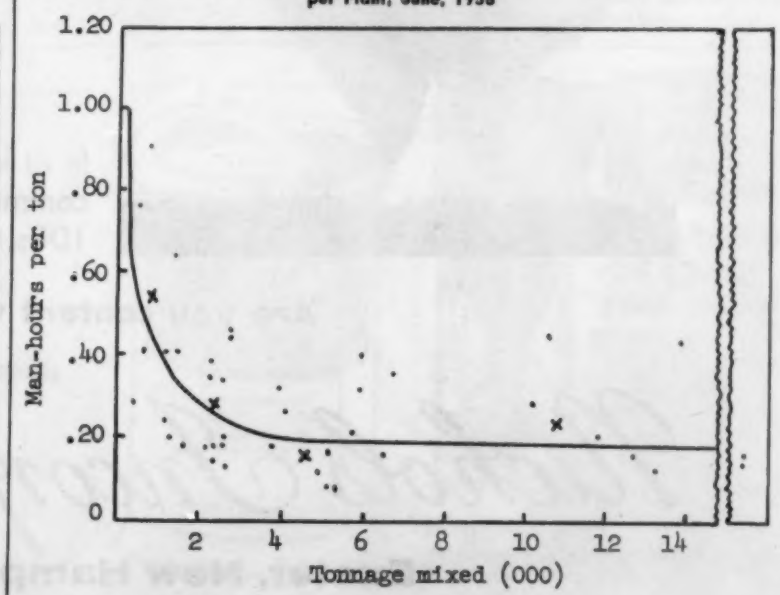


FIGURE 3. Packing Cost Center—Inputs of Production Labor and Volume Handled per Plant, June, 1958

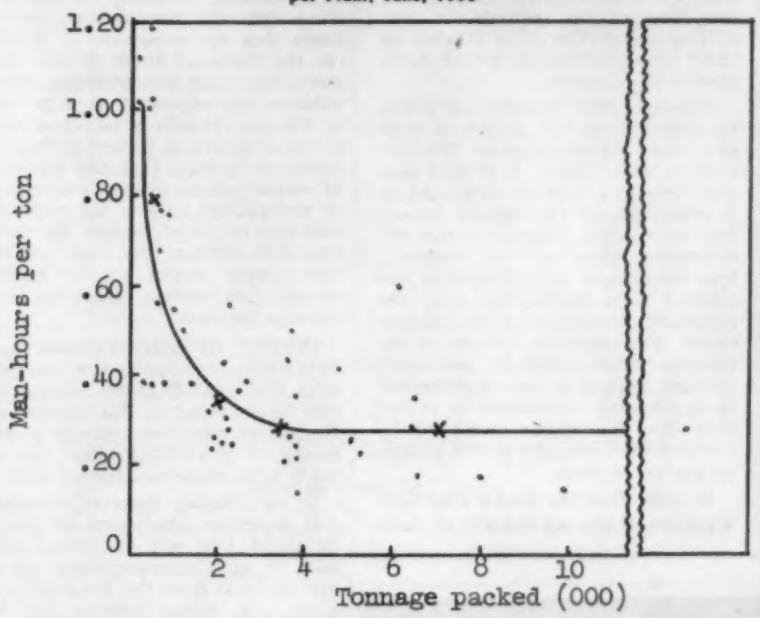


TABLE 2. Average Tonnage in Each Cost Center Expressed as a Percentage of the Tonnage of Feed Mixed, June, 1958

Tons of feed mixed	Tonnage					
	Received	Processed	Mixed	Pelleted	Packed	Warehoused
	%	%	%	%	%	%
0 to 1,399	75	46	100	94	60	96
1,400 to 2,899	98	37	100	83	84	107
2,900 to 5,799	95	56	100	68	72	98
5,800 and over	122	58	100	52	64	107

bor costs to be a larger proportion of total operating costs in the larger plants. However, this should not be assumed to be an industry tendency since the type of merchandising organization has a tremendous influence on any given plant's expenditure for sales. The small number of plants supplying these annual data may be organized in such a way that the smaller ones spend more and the larger ones less for procurement and sales than other plants in the industry with comparable volumes.

Although the industry standards established by the 1956 Feed Production School research indicated that the grain processing and the packing cost centers should require a very small amount of production manpower, plants operating in the industry have not been able to achieve such low inputs in these cost centers (Table 1). This may mean either that (1) the industry requires a different and more complicated type of operation than was assumed in the model plants used in establishing the industry standards, or (2) there is considerable room for improvement in these operations in the plants reported on in this study. On the other hand, a much more complicated warehousing operation appears to have been assumed for the small volume plant (Table 1) in establishing the standard than is actually required in the industry.

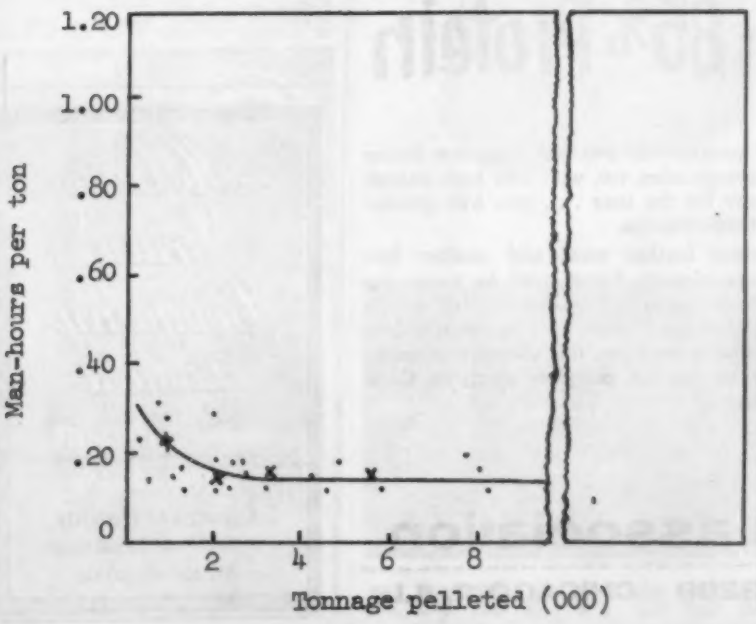
Analysis of the data obtained from the 63 plants indicates that packing, mixing and processing are the cost centers requiring the most inputs of production labor per ton in the small volume plants. In the larger plants warehousing and packing are the most important.

PHYSICAL OUTPUTS: The physical outputs for each of the various cost centers or operations are the only data which can be used in this report to analyze variations in production labor inputs. An earlier report, however, had shown that operating volume is the major factor influencing both total operating costs and total production labor inputs.[2]

It should be recognized, however, that individual plant operations differed somewhat among firms, as did the proportion of capacity utilized, the type of equipment used, the material flow pattern, and the management pattern of the labor used. While this analysis improves the level of knowledge because it considers

[2]Brensike, V. J., and Askew, W. R., Costs of Operating Selected Feed Mills, Mktg. Res. Rept. No. 79, U.S. Dept. of Agr., Washington, D.C., February, 1955.

FIGURE 4. Pelleting Cost Center—Inputs of Production Labor and Volume Handled per Plant, June, 1958



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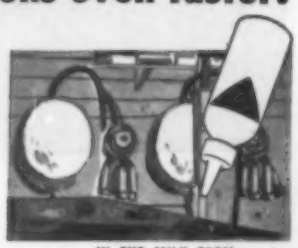

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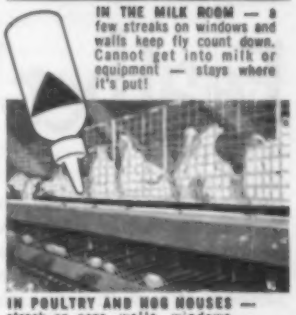

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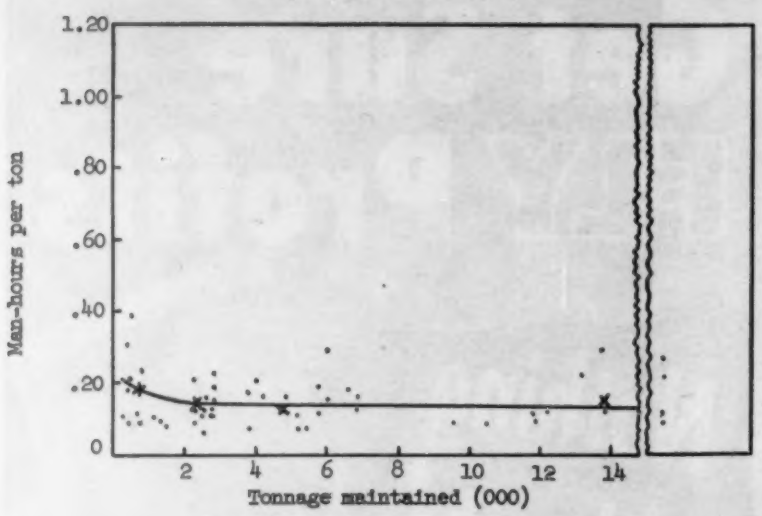
FIGURE 5. Maintenance Cost Center—Inputs of Production Labor and Volume Handled per Plant, June, 1958



individual production operations, it is expected that future surveys will further improve the analysis by permitting recognition of a number of these other factors in one or more specific cost centers.

Although this analysis considers the influence of the output of each cost center or operation on the production labor inputs, it is also possible that this tonnage, expressed as a proportion of the volume mixed, may have some bearing on this relationship. This may be especially true for certain cost centers or operations even though they need not necessarily handle all of the tonnage mixed. For example, not all of the tonnage mixed must be processed, pelleted, packed or even warehoused. It is, however, reasonable to expect that all of the volume mixed will be received when considered over a longer period of time.

In order that the reader may have a picture of the relationship of these output volumes among the various cost centers, Table 2 summarizes these data for the plants included when they are considered in groups on the basis of their mixing volumes. For rapid interpretation, these volumes are expressed as a portion of the average volume mixed in each group of plants. A review of Table 2 seems to indicate that the influence of output volume may be either over or understated only in the receiving and pelleting cost centers. In these two cost centers the ratio of the cost center output to the mixing output does show a trend as both volumes increase.

INPUTS OF PRODUCTION LABOR: General volume-cost relationships and some tentative conclusions will be discussed in this section, although no complete analysis of the inputs of production labor can be made from these preliminary data.

In establishing these relationships and tentative conclusions it should be noted that not all plants were used in each diagram. Some plants are excluded from the analysis for a given cost center because they reported production labor inputs for a combination of two cost centers and only an arbitrary method could have been used to obtain separate data. In addition, a total of eight plant manhour - output relationships were excluded in each cost center either because the data were in error or they represent a type of operation which is completely different from those in all other plants.[1]

Previous analyses have indicated that both total operating costs per ton and, especially, total production labor costs per ton have tended to decrease rapidly as volume increases until an annual volume of about 25,000 tons per year is achieved. This analysis of production labor inputs per ton indicates that the processing, mixing, packing, and, to some extent, the pelleting operations have helped to cause these conditions. The warehousing, receiving, and maintenance operations have a more level relationship of volume and per unit costs even in the small operating volumes.

Small Volumes and Higher Costs— Small volumes mean much higher per unit costs in the processing, mixing, packing and pelleting cost centers (Figs. 1, 2, 3 and 4). In the scattergram each "dot" represents a plant. Each "X" represents the average manhour - output relationship for the four respective size groups shown in Table 2. The average relationship shown is only approximate

[1]One unusually high and one unusually low production labor input per ton was excluded in each of the four operating volume groups in each cost center to (1) make the general relationship more apparent, and (2) leave the group average approximately unchanged.

Actually these unusually high or low production labor inputs per ton may be the most important consideration in a future more detailed analysis. Differences in equipment used, product flow, or management of labor may explain the present apparent error or unexplainable differences in production labor inputs. For present purposes of analysis, however, these plant data must be excluded as either being due to considerably different operating conditions or being in error.

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FIGURE 6. Receiving Cost Center—Inputs of Production Labor and Volume Handled per Plant, June, 1958

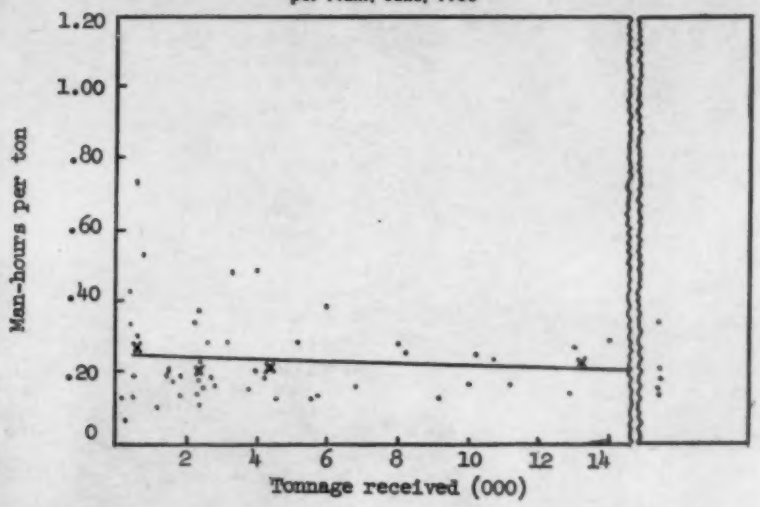
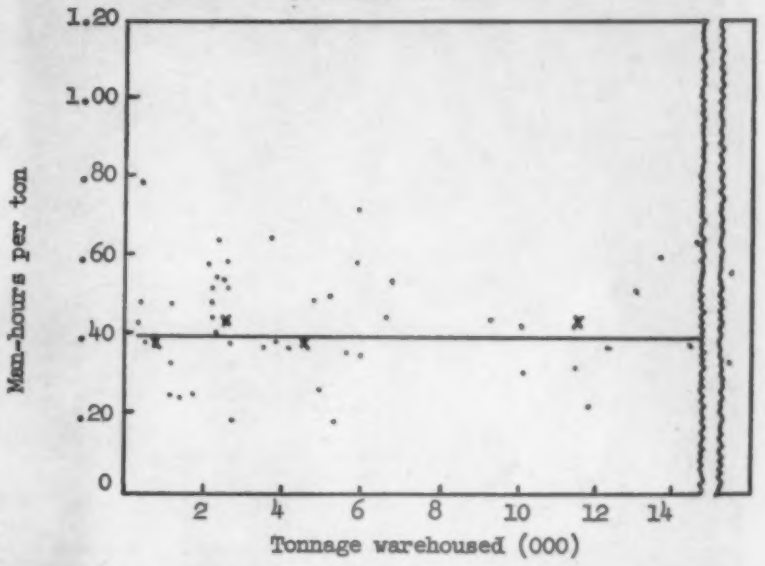


FIGURE 7. Warehousing Cost Center—Inputs of Production Labor and Volume Handled per Plant, June, 1958



and is based primarily on the group averages. However, it gives a picture of the general pattern of the relationship among the individual plants.

Certainly, both the variation in per unit labor inputs and the influence of volume in the small plant operations in each of these cost centers indicate a considerable possibility for increased efficiency. Despite the slight impact of volume on per unit labor inputs in the larger volume plants, the greater dispersion in the packing and mixing cost centers again shows possibility for greater efficiency in certain plants. While this possibility also exists for pelleting and processing, the size of the possible savings is much smaller.

Volume Has Little Influence on Other Operations—Even in the small volume operations volume has very little influence on the per unit inputs of production labor in the warehousing, receiving and maintenance operations (Figs. 5, 6 and 7). Even in these cost centers the variations in costs among the small volume plants are considerable, again indicating significant possibilities for increased efficiency in many plants.

Variations in production labor inputs, especially in the warehousing cost center in the larger volume plants, also show the possibilities for increased efficiency in many plants.

Western Association Surveys Members

DES MOINES—Western Grain & Feed Association of Iowa recently surveyed its members pertaining to association services

Bob Skinner, executive secretary, said, "We are mindful of the need to constantly change our program of activities to meet the needs of our members because of the ever-present changes occurring in our industry."

The survey covered the association's major activities. Each member was asked to indicate whether he wanted individual activities continued, discontinued or modified.

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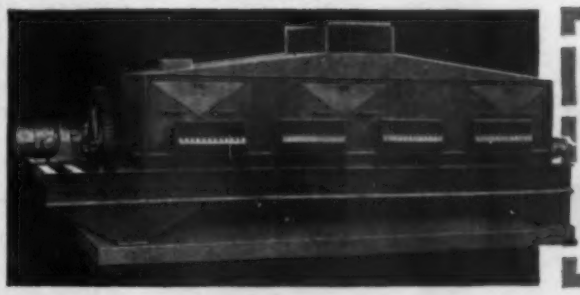

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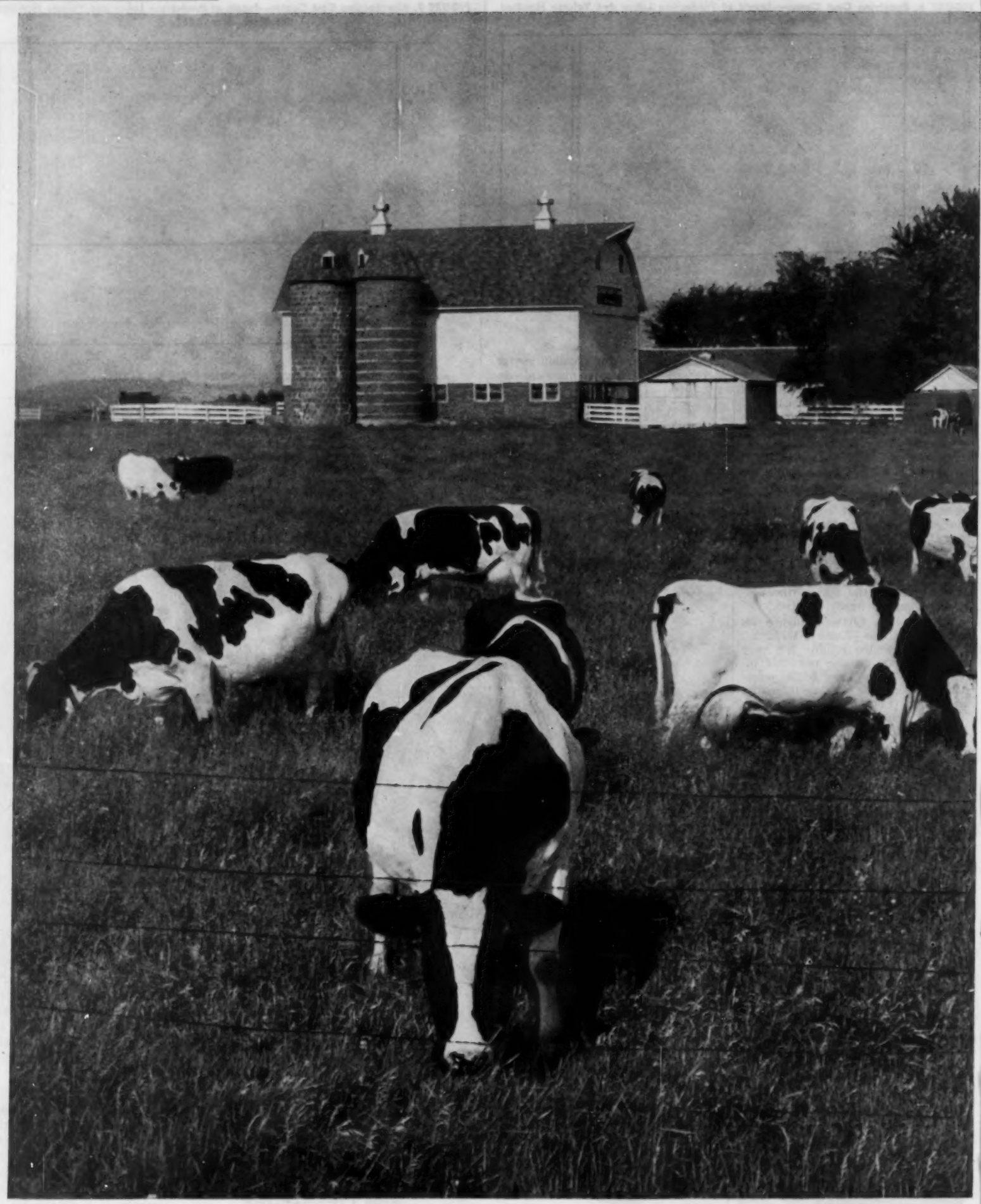

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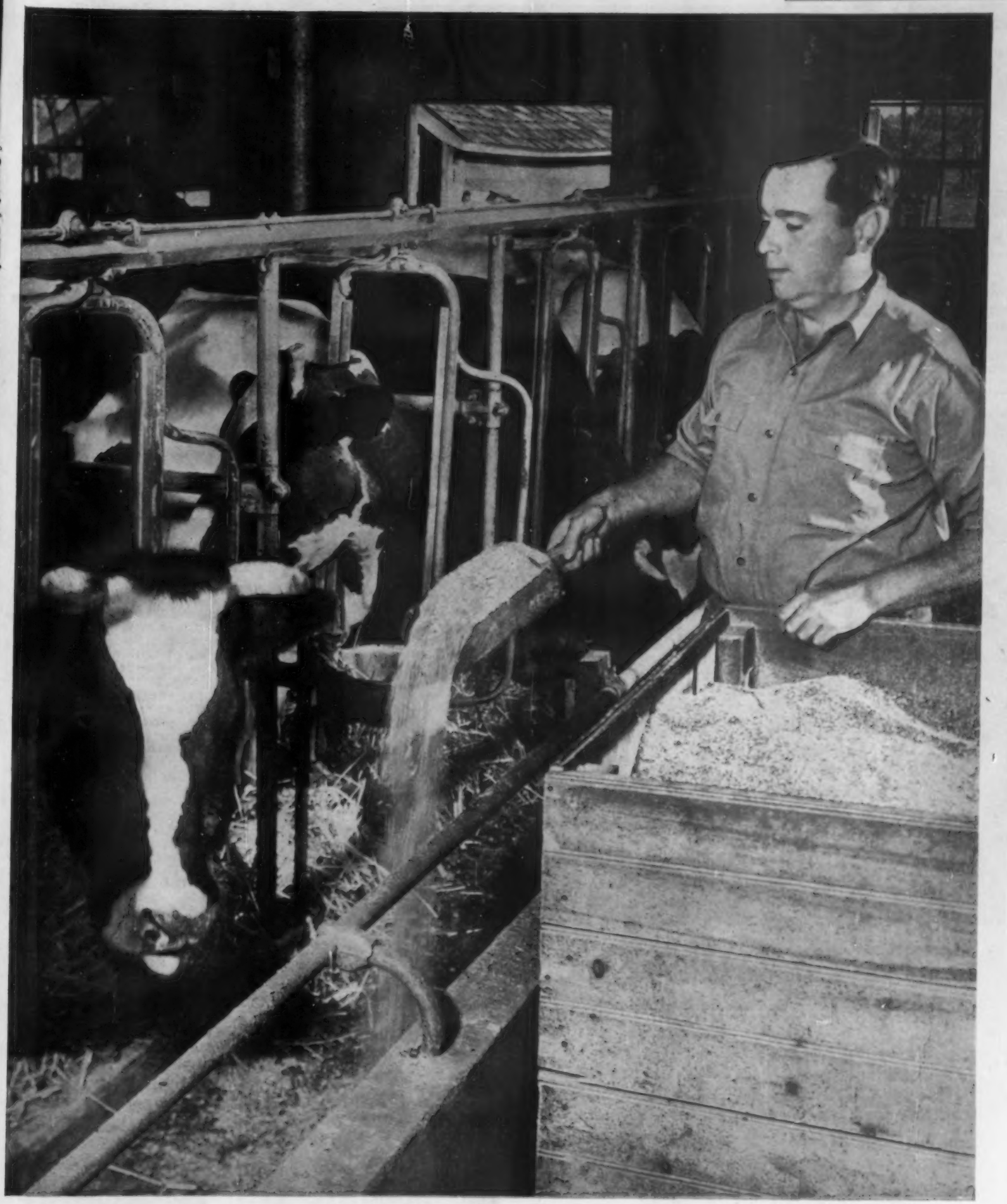

This month and next month Cyanamid advertising to dairymen will carry a story similar to that being told by many feed manufacturers in their own advertising.

In effect, that story is: "Get the *most* out of your summer feeding! Pasture alone can't give your cows all the food values they need for sustained high production. When you feed grain or roughage, provide also a balanced formula feed.

"When you're feeding cows bred to be high producers, the need for extra proteins, minerals, vitamins and an effective antibiotic in the ration is highly important. This is particularly true in late summer when pasture may be close-cropped and dry.

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*AUREOMYCIN is American Cyanamid Company's trademark for chlortetracycline.

JOE BROOKS

BY AL P. NELSON

Women Also Have Some Ideas

When Joe Brooks neared his home that spring evening, he saw many cars parked at the curb on both sides of the street in the vicinity of his house. This surprised him until he remembered that this was the afternoon Mary was scheduled to have the Ladies' Aid. Usually the women were gone by 6 o'clock, but if the neighborhood news was especially "spicy" and the gemutlichkeit right, these meetings lasted until husbands came home from work.

"Just look at that," Joe said to himself. "It takes the Ladies' Aid groups to get turnouts. Why can't our feed dealer clubs get turnouts like that? Maybe we should gossip a little more like the ladies do."

He was about to turn back toward the mill when his two sons, Joe, Jr., and Jimmie, came rushing around the corner of the house and spotted him. The 10-year-old boys looked unhappy.

"Gee, Dad, when are those biddies going to go home, so we can have our supper?" asked Joe, Jr. "They've been here three hours already."

"Don't call a woman a biddy, young man," Joe said, sternly. "Show respect for ladies."

"Well, can't the three of us go to the restaurant and eat?" asked Jimmie. "Then we won't bother them and they can go on talking."

Joe shook his head. "No, we are men and we must face up to our responsibilities. Mother is probably expecting us to come and thus give the signal for the ladies to go home. I was about to go back to the mill myself when I saw all those cars, but that wouldn't be good public relations. A good businessman, boys, always tries to meet people and be friendly to them. You never know when you will make a customer out of an acquaintance. And some of those ladies might be wives of farmers!"

"Gee, Dad, you have to be using your head all the time when you are in business, don't you?" asked Joe, Jr.

An Admonishment

His father smiled. "That's what a head is for, my boy, not just to grow hair on. Come on, let's go into the house together."

They entered the kitchen and banged the door quite loudly. Instantly the busy-bee conversation in the living room quieted like a turned-off phonograph record. Joe and his sons walked right through the kitchen and into the dining room and into the living room.

About 10 women sat with coffee cups long empty. One, Mrs. Gerharty, rose to her feet. "Oh, I must be going now. Mr. Brooks, your wife makes the most wonderful cherry pie. It's the best I've ever tasted."

Joe grinned. "I think so, too. Only trouble is she won't bake it seven times a week."

"Oh, you men!" trilled Mrs. Gerharty. "You always want to eat too much. Well, goodbye, Mary. I've had a most interesting afternoon."

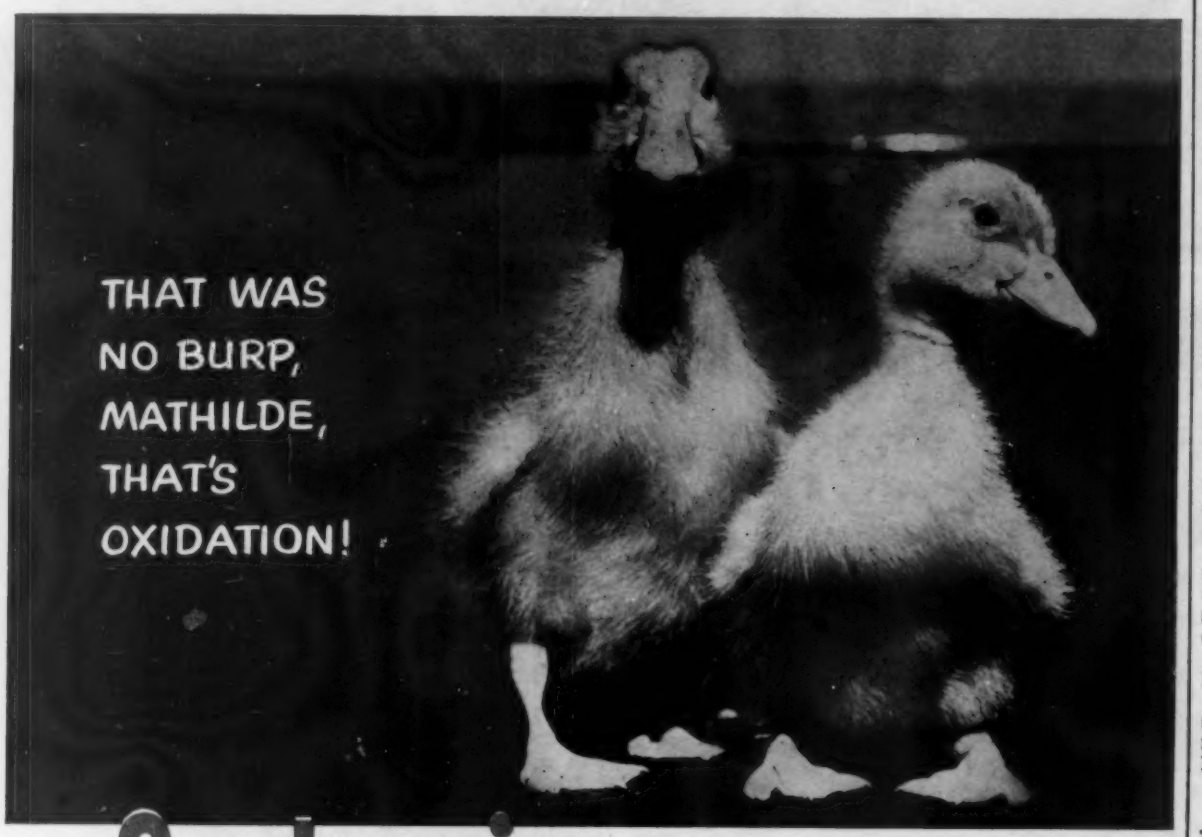
After the women had gone, Mary sat down and said, "Wow, it was an interesting afternoon, but they stayed too long. Thank heavens you came."

Joe winked at the boys. "What did I tell you? She likes us best of all."

"Joe," Mary said, slipping off her shoes and wiggling her toes. "You must wait for supper a little while. I have a business idea to tell you."

"Business idea!" complained Jim-

(Turn to page 28)



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The firm uses Sewn Open Mouth Multiwalls in part of its operation. Cartledge recommended adding Union's special SEW STRONG construction (reinforcing strips at top and bottom of bag). The stronger closure enabled the basis weight of each bag to be reduced by 10#. The new sewing method led to a reduction in bag length, an improved bag design—and $4.05 per M savings! Another recommendation: convert all the firm's present Sewn Valve Multiwalls to Sewn Open Mouth types. This complete changeover will further streamline bagging and, based on the company's annual requirements, result in thousands of dollars in additional savings.

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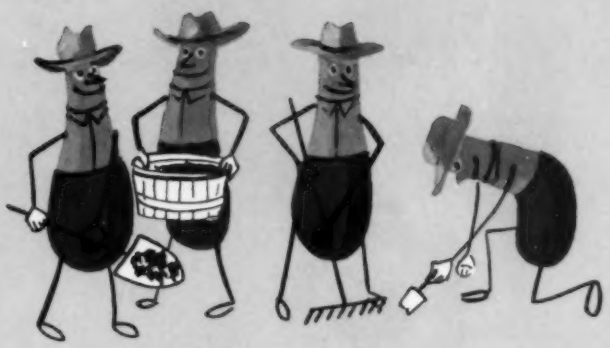

Selective Action Means

BENEFICIAL BACTERIA ARE NOT HARMED

BEWARE THE BAD BACTERIA!

These are "gram-positives" – the harmful bacteria that produce secondary disease, invade the tissues, and form pus and poisonous toxins . . . and, the free-loading gluttons in the intestinal tract that live off the nutrient material that should go to the bird or animal, but doesn't.

STRIKE WHERE THEY LIVE!

It's when many of the harmful bacteria escape from the gut that they become dangerous. The place to control them – and the only place – is in the intestinal tract – before they invade the tissues, organs and glands.

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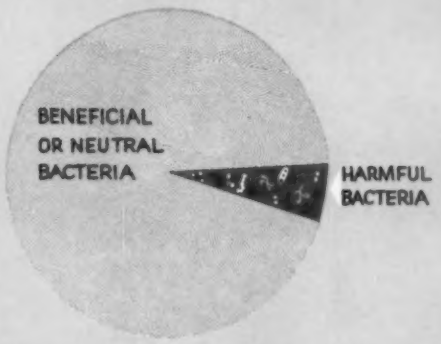

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Of all the bacteria normally present in the intestinal tract of the chicken, the turkey or the pig, only about 5% are harmful. The rest are beneficial or, at worst, neutral. In healthy animals, a proper balance is maintained among the many kinds of microorganisms normally present in the intestinal tract, thus assuring adequate nutrition.

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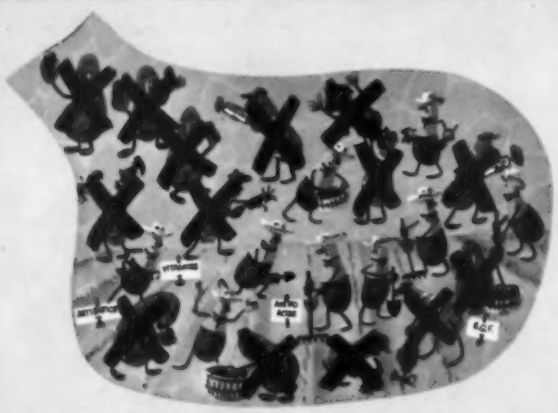

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mie. "Dad, you and Ma are always talking business. Can't you get a regular job like other men have. They don't work half so hard. They have more time for their families."

Joe chuckled. "Come on now. I take you guys fishing and hunting and to Boy Scout doings at the county seat and lots of other places. I do my share. Rinse the Ladies' Aid dishes if you're so antsy. I want to hear Mother's idea."

Joe, Jr., pinched Jimmie and they went into the kitchen. "You and your big mouth," he snapped at his brother. "If you'd gone along with Dad we wouldn't have to rinse those dishes."

"Aw, I'm hungry," whimpered Jimmie.

"What's the idea you have, Mary?" asked Joe eagerly. "You know me when it comes to traffic builders and cash register ticklers."

Mary stretched out comfortably on the sectional, "Joe, my cherry pie got the gals to talking. One woman, Mrs. Pete Jeffers, used to live at Green Bay, Wis. She claims there's a combination drug store and bakery up there that gives away a free pie every week, and has been doing this for over 20 years. The owner prints the name of the winner in his ad and the winner has to call for the pie. It builds store traffic."

"I should think it would," Joe replied. "And it's not an expensive idea, either. We don't sell pies, though."

"But we do sell flour, Joe. And if we can up the store traffic some of those people will buy feeds and fertilizer."

"I suppose so."

Mary Shows Enthusiasm

Mary seemed eager. "Joe, let's try this idea. I'll bake not one but five cherry pies that you can give away every Friday. We can select names of farmers from the phone book, print those names in the ads and ask those farmers to come in and claim their free pies. And, of course, we'll mention the pies are baked with the flour we handle. . . ."

"Okay, I'll do it. I can see where it will boost store traffic. But how will we select the names to print in the ad?"

Mary suddenly became thoughtful. "That's where we have to be smart, Joe. We'll print names of three farmers who are customers and two farmers who are not customers. In that way we'll bring new potential customers into our store and also satisfy the regular customers."

"Hey, I like that new customer angle," Joe said quickly. "Mary, what I like about you being a vice president of the company is that you think of business ideas after working hours, too."

"After working hours!" Mary echoed. "I know that if I didn't come up with a good business idea now and then you'd start griping plenty. So I have to think any old time I get a chance."

"Oh, no, I'm not such a tyrant as that, am I?" Joe said, playfully.

"Well—"

Jimmie, looking into the living room from the kitchen doorway tiptoed back to his brother, Joe, Jr., rinsing dishes in the sink.

"Aw, Dad is kissing Mother," he said, disgustedly. "Now we'll have to wait still longer for something to eat. This just isn't our day, Joe!"

Missouri Swine Day To Be Held Sept. 4

COLUMBIA, MO.—The University of Missouri's annual Swine Day will be held in Columbia Sept. 4, Dr. Leland Tribble, associate professor of animal husbandry, reports.

On the program will be progress reports on swine research being conducted by members of the university's animal husbandry department. Other topics of interest to Missouri hog producers also will be included on the one-day program, he said.

Corn-Feeding of Hogs Under Test in Canada

TORONTO — The Ontario Department of Agriculture reports that more and more Ontario farmers are feeding corn to pigs because they like it as a source of cheap, easily digestible energy. But, say department officials, corn has one major shortcoming—it produces a fatty carcass when overfed. Animal husbandry specialists at the Ontario Agricultural College are working on this problem.

Farmers who self-feed corn and concentrate run into this problem continually: Pigs slow down in growth after reaching 110 lb. and tend to put extra energy into fat instead of meat.

Ontario Agricultural College researchers are carrying out tests to find out what levels of corn should be fed at different hog weights, how much protein should be fed with corn and what level of low-energy oats is needed to cut down the "strength" of corn.

In one experiment, two ratios of corn to oats were fed to growing pigs, and three ratios of corn to oats were fed to hogs from 125 lb. to market weight. Pigs were also divided into two groups according to their level of protein. The higher protein level was 17% protein to pigs up to 75 lb.; 15% protein from 75 to 125 lb., and 13% protein to hogs between 125 and 200 lb. The lower protein level was 14% to 75 lb.; 12% from 75 to 125 lb., and 10% from 125 to 200 lb. Here are the results:

Pigs on high protein gained one tenth pound faster—1.62 lb. per day compared to 1.52 lb. per day—than pigs on low protein. The high-protein pigs also cost less to feed and produced better carcasses than pigs on low protein feeding. The corn-oat ratio studies showed "there was some benefit from including high levels of corn in the rations of pigs up to 125 lb." The experiments are continuing.

Idaho Studying Own Source of Calcium

MOSCOW, IDAHO—The possibility that Idaho may develop its own source of calcium for poultry and livestock feeds is being explored in a University of Idaho agricultural research project, according to Dr. R. D. Ensign, associate director of the university's agricultural experiment station.

A $900 grant for the study has been provided by a group of southwestern Idaho business men contemplating formation of a company to develop high-calcium limestone deposits in Owyhee County. The departments of poultry husbandry and agricultural chemistry are conducting the study.

Calcium now used in poultry rations in Idaho is shipped in from other states, explained Prof. C. F. Petersen of the poultry department.

Samples from the Idaho deposit show a 36.5% calcium content. Oyster shell, a traditional source of this mineral in poultry feeds, contains 38%, Prof. Petersen said.

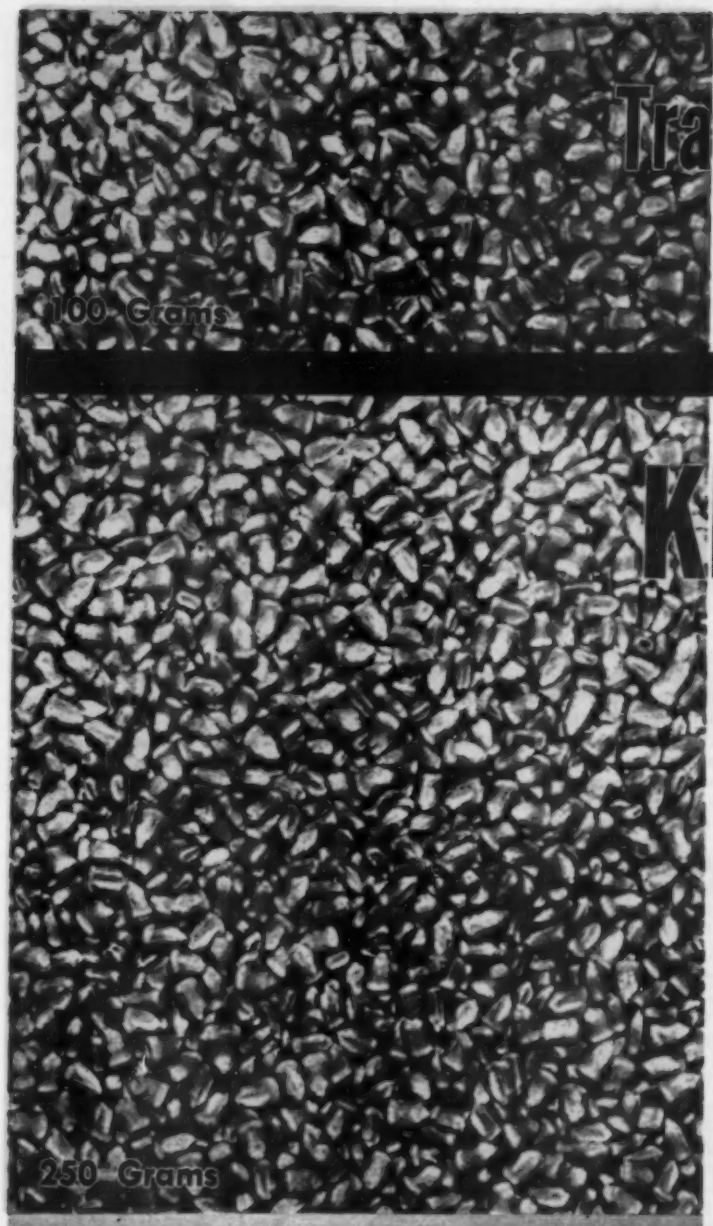
Finely ground limestone from the Idaho deposits is being used in chick rations at the university poultry farm. Various levels are being compared with oyster shell.

"If the Idaho calcium works in the chick rations it will also be satisfactory in laying rations," Prof. Petersen said.

The Owyhee County deposit, about 25 miles south of Bruneau, covers around 800 acres. Army engineers have estimated it contains at least 75 million tons of the high-calcium limestone.

ELEVATOR BURNS

BELOIT, WIS. — The Farmers Union Cooperative Elevator here and its contents of 12,000 bu. of feed grain and 1,000 bu. of wheat were destroyed by fire recently.



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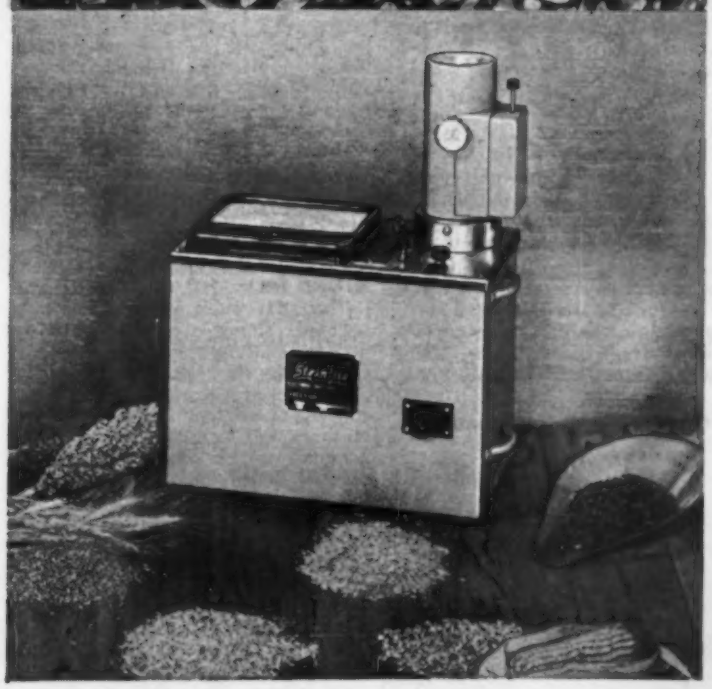

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The Feeding Value of Pelleted Rations for Fattening Ruminants

By Dr. J. H. Meyer
University of California

Any discussion on the feeding value of pelleted rations to ruminants must clearly distinguish between four types of pelleted feeds: (1) pelleted, finely-ground hay, (2) pelleted, finely-ground mixed concentrate and hay, (3) pelleted, coarsely-chopped or long hay (commonly called the "wafer") and (4) pelleted, coarsely-chopped hay mixed with concentrate. The changes in feeding value induced by any of these procedures are not similar and must be discussed separately.

An example of the visible changes, shown in Figure 1, explains why we need to keep these differences in mind. First, note that two processes occurred in processing the feed on the left. The hay was finely ground and it was compressed into a less bulky feed. Second, note that essentially only one process occurred on the right. It was not ground but it was made less bulky. Therefore, the primary difference between the pellet and the wafer is the fineness of grind, while the secondary difference is that the pelleted, finely-ground hay is less bulky than the wafer (45 lb. versus 24 to 28 lb. per cu. ft.).

PELLETED, FINELY-GROUND HAY—Most experiments have shown an increased gain when hay is finely ground (⅛- to ⅜-in. screen) and pelleted. Typical results in our experiments with sheep (Table 1) have shown an increased gain and feed intake of sheep fed pelleted hay compared to those fed chopped hay. Steers also show similar results.

Work at the Universities of Illinois and California (Table 2) has shown that there was no difference in the feeding value of chopped and pelleted hays when lambs were fed equal quantities per day. Note also that our work, contrary to that from England, showed no difference in energy digestibility. We did agree, however, that net energy was the same in both feeds. In other words, pound for pound, chopped and pelleted, finely-ground hay were equal in feeding value.

The main difference in feeding value, therefore, between pelleted and chopped hay was when the animals fed pelleted alfalfa ate more. If an animal consumes a greater quantity, then a larger percentage goes for gain and less for maintenance. Hence this is the primary reason for an increased efficiency of feed utilization. To reiterate, the pelleted, finely-ground hay had a higher feeding value only when an animal consumed more.

Further investigations in England and California have shown that the increased feed intake of pelleted hay is due to a faster passage of hay through the digestive tract. Our work went one step further to study the basic reason for the faster feed passage. Work with rumen contents in a Warburg apparatus and on rate of cellulose digestibility in the rumen indicated that the pelleted hay was digested at a faster rate. Our theory is that the faster the feed is digested, the faster it will pass through the digestive tract and, hence, a greater feed intake results. Possibly the fine grind is responsible for this increased rate of digestibility.

There are two general situations for one to consider when making a decision regarding the use of pelleted, finely-ground hay. First is the increased feeding value due to a greater feed intake and second, the improved package that the hay is in. This latter, an improved package, results in reduced storage space, ease of feeding, reduced waste of hay in refusals by sheep and cattle, and reduced transportation costs—all having values varying from farm to farm. No two farms are alike, and each farmer has to use his own sharp pencil to figure the value of a more convenient package.

Three generalizations can be made regarding the economic merits of feeding pelleted, finely-ground hay. First, in areas where feeding of hay to young, growing sheep or cattle is economical, the combination of an increased feed intake and a more convenient package seems to more than pay for the increased cost of pelleting. It does mean that a ranching operation needs to plan for pelleting because equipment for feeding pellets may differ. Storage facilities and means of taking pellets from storage to feed bunks need to be considered. The rancher may self-feed his animals. Also a pelleting machine or mill should be close at hand, particularly if the rancher has to haul his hay to the mill and return with pellets.

The second area where feeding of finely-ground hay seems to have a place is for the feeding of hay to range cattle or sheep during periods of feed shortage on the range. There are two reasons for this: Not only is there a saving in labor and transportation costs, but there is also a saving of hay ordinarily wasted by feeding on the ground. Some ranchers estimate that animals trample into the ground, soil by defication and urination, and scatter at least 30% of the long hay that is fed. This saving plus the labor-saving aspects seem to indicate a place here for feeding pellets. Here again, changes in feeding equipment will be needed.

Utilization of hay which contains a small percentage of unpalatable weeds is improved greatly when it is pelleted. This is the third general area where pelleting finely-ground hay might pay. One of our experiments emphasizing this is shown in Table 3. Here, foxtail (Hordeum jubatum), a weed with sharp awns, interfered with feed intake of the long hay but not with the pellets. Not only was feed intake improved with pelleting, but the awns did not cause an irritation problem by getting into the eyes, nose or mouth.

TABLE 1. Results With Sheep Comparing Chopped and Pelleted Finely-Ground Hay (56 Days)

	Chopped hay	Pelleted hay
Number of sheep	40	40
Initial weight, lb.	60	60
Average daily gain, lb	0.23	0.38**
Average daily feed intake, lb.*	2.8	3.7**
Feed per 100 lb. gain, lb.*	1260	980**

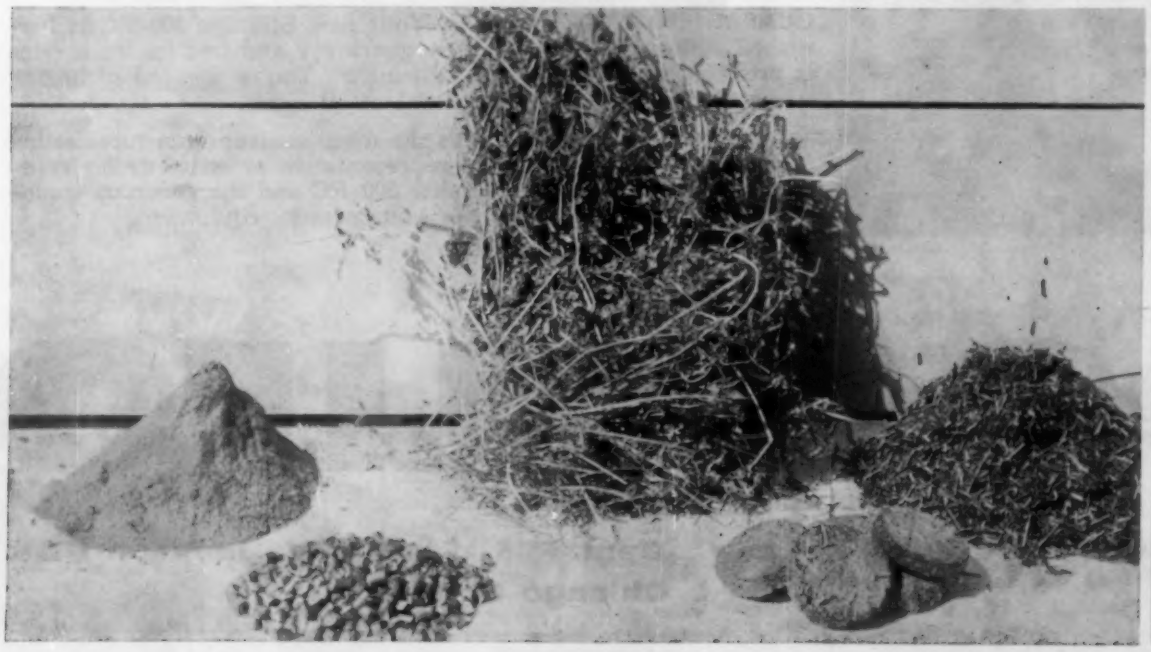
*Dry matter basis.
**Highly significant difference.

TABLE 2. Results from the Equalized Feeding of Chopped and Pelleted Finely-Ground Hay (56 Days)

		——Pelleted hay——	
	Chopped hay	Equalized feeding	Ad libitum
Number of sheep	6	6	6
Initial weight, lb.	75	75	76
Average daily gain, lb.	0.27	0.26	0.40**
Average daily feed intake, lb.*	2.48	2.54	3.25**
Feed per 100 lb. gain, lb.*	910	960	810
Total digestible nutrients, %*	59	60	..
Digestible energy, megacalories per 100 lb.*	124.0	127.0	..
Net energy, megacalories per 100 lb.*	62.6	65.0	..

*Dry matter basis.
**Highly significant difference.

FIGURE 1. A pictorial comparison of hay prepared in different ways. There are three fourths of a pound in each pile.



Dr. J. H. Meyer

AUTHOR—Dr. J. H. Meyer is associate professor of animal husbandry at the University of California at Davis. He was reared in Idaho and was graduated from the University of Idaho in 1947. He received his Ph.D. degree from the University of Wisconsin in 1951. Since that time Dr. Meyer has been on the animal husbandry department staff at California. His principal research has involved the utilization of fiber and fibrous feeds by animals.

PELLETED, FINELY-GROUND MIXED HAY AND CONCENTRATE—The addition of concentrate to a pelleted, finely-ground hay pellet causes a different response than the feeding of the straight hay pellet. The physical advantages of a more convenient package are still retained. However, an increase in feed intake does not always occur when concentrate is added to this pellet. Hence, one may not have an increase in efficiency of feed utilization. The University of New Mexico first noted that sheep made the best utilization of pellets when the concentrate was 30% of the ration rather than the 50 to 60% needed in a chopped hay ration.

Our results with steers (Table 4) confirm this. Note that the utilization of pellets decreased as concentrate was added. In fact, the utilization of the 60% concentrate pellet was less than the milled ration.

This situation can be viewed in two ways. First, generally one cannot feed a high-concentrate ration as a pelleted, finely-ground ration; or, secondly, one can make greater use of roughage for fattening. These two views are based on the same principle but have a different approach.

Thirty percent concentrate seems to be the optimum level in a pelleted, finely-ground ration. Calculations show that these rations contain from 20 to 21% crude fiber. Therefore, we recommend that a pelleted, finely-

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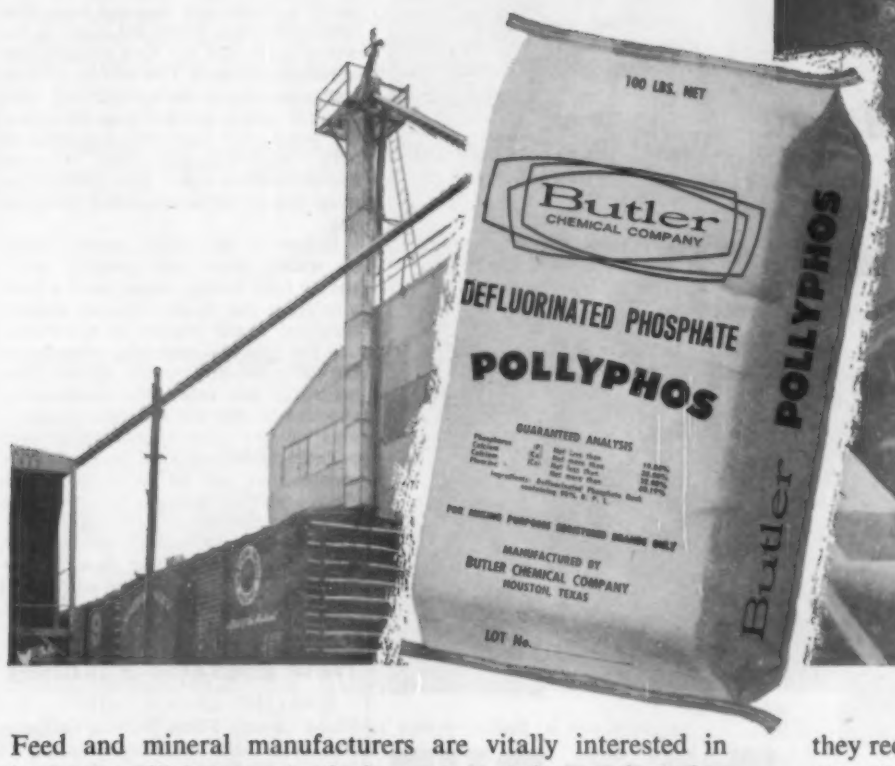

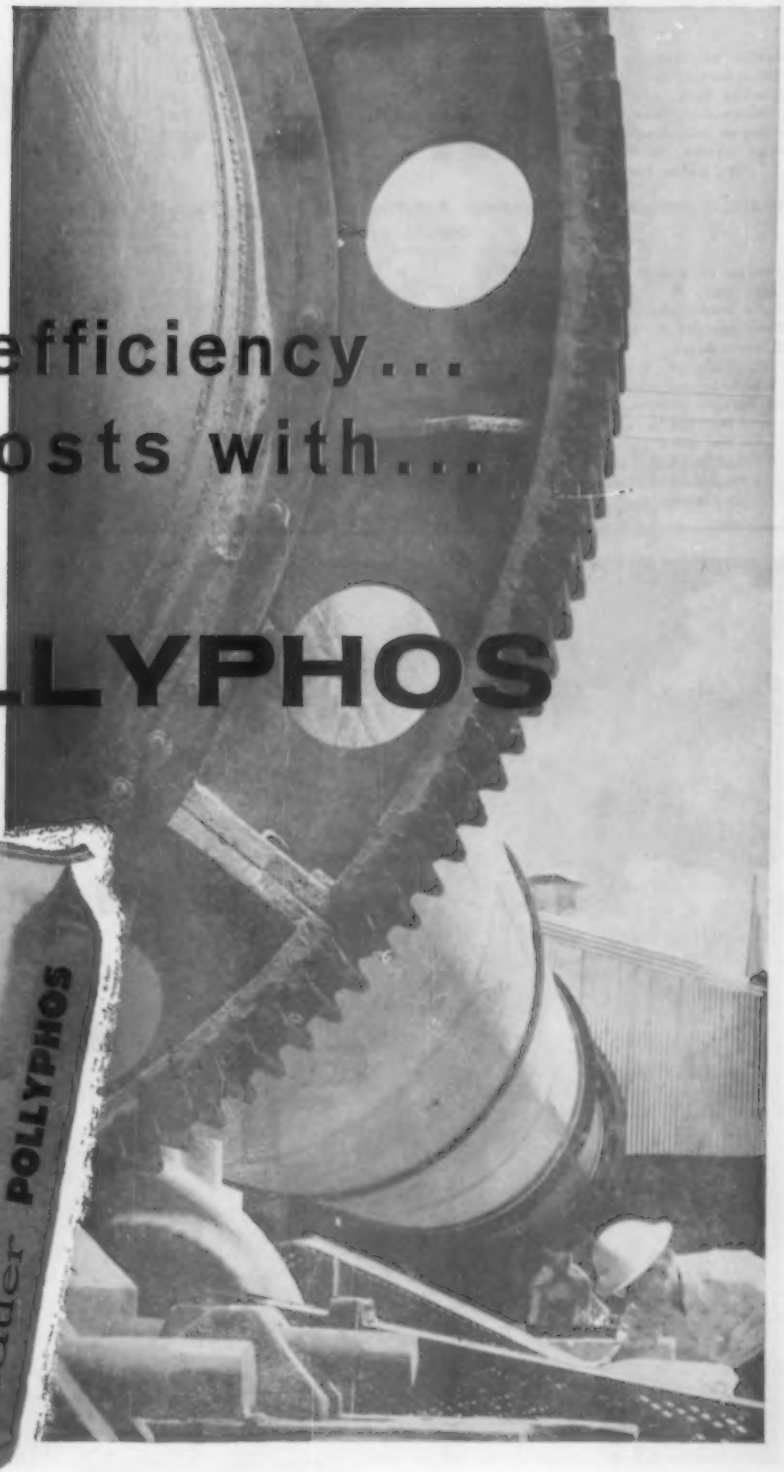

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TABLE 3. Influence of Pelleting on the Feed Intake of Hay Contaminated with Unpalatable Weeds

	First cutting contaminated with weeds		Fourth cutting weed free	
	Long hay	Pellets	Long hay	Pellets
Number of sheep	6	6	6	6
Initial weight, lb.	66	66	67	66
Average daily gain, lb.	0.24	0.35	0.29	0.33
Average daily feed fed, lb.*	3.61	3.26	3.54	3.16
Average daily feed intake, lb.*	2.75	3.26	2.90	3.16
Feed wasted, %	24	0	18	0

*Dry matter basis.

TABLE 4. Influence of Concentrate Additions to a Pelleted, Finely-Ground Ration

	0% Concentrate		30% Concentrate		60% Concentrate	
	Milled	Pelleted	Milled	Pelleted	Milled	Pelleted
Number of steers*	9	9	9	9	9	9
Daily gain, lb.	1.75	2.22†	2.07	2.29	2.46	2.14†
Daily feed intake, lb.‡	19	22	20	21	20	16
Feed per 100 lb. gain, lb.‡	1100	1010	970	920	810	770
Carcass data:						
Carcass fat, %	18	20†	22	23	26	23†
Dressing per cent	56	57	60	60	60	60
Carcass grade:						
No. choice	3	9	8	9	9	7
No. good	6	..	1	..	..	2

*Initial weight, 600 lb.
†Significant difference from the milled ration.
‡Dry matter basis.

TABLE 5. Response of Growing Sheep to Pelleted and Wafered Hay

	Chopped hay	Pellets	Wafers
Number of sheep	6	6	6
Initial weight, lb.	75	76	75
Daily gain, lb.	0.24	0.38**	0.30
Daily feed intake, lb.*	2.80	3.59**	2.86
Feed per 100 lb. gain, lb.*	1160	940	950

*Dry matter basis.
**Statistically significant difference.

ground ration not go below 20 to 21% crude fiber.

A pelleted, finely-ground ration for fattening has great use where hay is a cheaper source of net energy than grain. This point is reached when hay is one half the price of grain when net energy content and differences in grinding costs are considered. Even in this instance, grinding and pelleting costs have to be carried by the convenience of the physical form of the pellets—not by any change in feeding value as a result of increased feed intake. If we assume that the net energy of a pelleted feed is the same as a milled ration and less concentrate is put in a pellet, an animal has to eat more of the pellet than a milled, high-concentrate ration to make the same gain. Therefore, the price per unit of net energy from hay has to be cheaper than that from grain. Note that this is net energy, not total digestible nutrients.

One additional advantage of a pelleted, 30% concentrate ration is that animals go on feed faster than when fed a high-concentrate mixed ration. This is a particular advantage with sheep. The period of putting sheep on feed is a greater proportion of the fattening period than for cattle.

PELLETED, COARSELY-CHOPPED HAY (WAFER)—Very little information is available on all hay wafers. Since the material is not finely ground but is merely compressed into a 2- to 4-in. pellet, the response should not be the same as from pelleted, finely-ground hay. Results from one of our experiments (Table 5) illustrate this point.

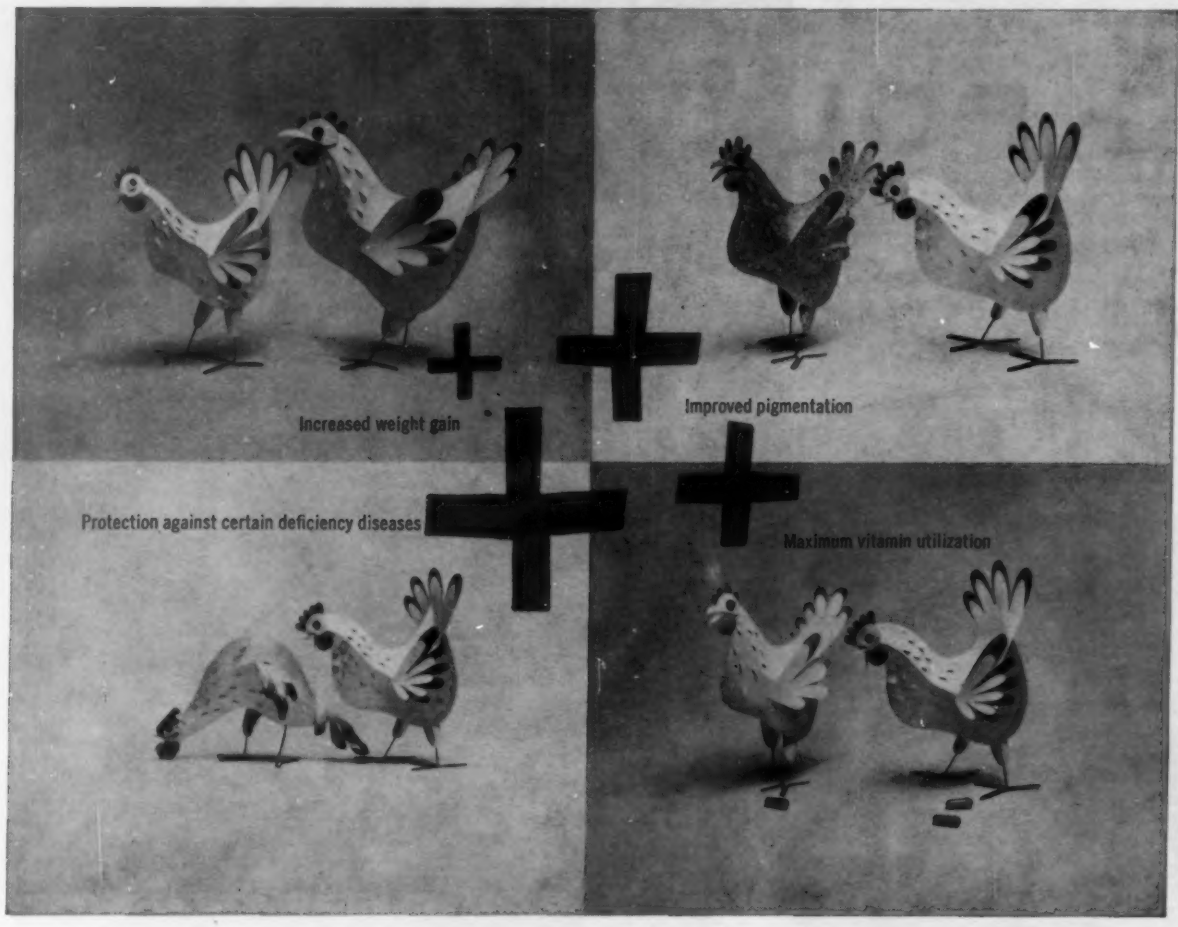
The sheep fed the pelleted, finely-ground hay greatly increased their feed intake and weight gains compared to those fed chopped hay. The large, four-inch wafer did seem to increase gains but not to a statistically significant extent. This seems reasonable since compressing the hay into a wafer would not allow as many entry points for bacterial enzymes as with finely-chopped hay. Oregon State reported equal milk production from cows fed wafers and chopped hay.

However, the large, coarse pellet or wafer, while not greatly influencing feed intake, might have a definite place due to its physical characteristics. These studies do not measure the physical handling advantages but only feeding value. Where concentrates are relatively inexpensive, the use of the wafer might conceivably have an economic advantage over pelleted, finely-ground hay. Experiments have yet to be conducted to study proper concentrate-roughage ratios in the wafer.

There is not enough information available at present to allow generalizations as to where the wafer will fit in the livestock feeding picture.

New Elevator Planned

BOWLING GREEN, OHIO — The Wood County Farm Bureau Cooperative Assn. has announced plans to build a 400,000-bu. grain elevator on the property the organization bought recently from the Bowling Green Livestock Sales, Inc., in Bowling Green. The completed project, including the machinery and equipment, remodeling for the new store and office, and other expansion plans, will cost about $600,000.



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Tenox BHT-Agricultural Grade was developed to meet the specific needs of poultry feed manufacturers. It is the result of information provided by feed manufacturers combined with our own extensive knowledge of antioxidant performance.

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After being in the same feed family for 22 years and seeing the many changes that have taken place in this fast growing industry, it makes us feel justly proud to belong to the Wirthmore family.

In the Wirthmore family you not only watch the advancement and the new highs attained in feed, you are part of the movement in which there is excellent teamwork and cooperation from the top down to the field servicemen and the salesmen.

There is also the assurance of always having a uniform and quality product.

With all these combinations working for us, it is not difficult to meet the keen competition that exists today, to serve the farmer and continue to grow.

Laban Wenger

Horst's Mill, Lebanon, Pa.

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Having decided to go into the feed business for myself, I wanted to represent a company that made quality merchandise and got good results.

I took a trip through the Wirthmore plant at Toledo and liked the care and precision that went into the making of Wirthmore Feeds.

Then I went a step farther. I wanted to see how it rated among dealers and users. I found all the way down the line dealers like the Wirthmore personnel, cordiality and efficiency of the products in the field.

I visited farms and found satisfaction for the results accomplished with the feed and appreciation for the service rendered by the service department.

I hope, in the not too distant future, my customers also will enjoy the results of Wirthmore Feeds and service.

Stephen D Sterling

Sterling Feed Service, Washington Court House, Ohio

40 YEARS WITH WIRTHMORE AND GOING STRONG

We want to let you know of our appreciation of the wonderful cooperation and assistance we have had from your organization.

We have seen a lot of changes in the poultry and dairy business, and have found your organization abreast with the trends, improving its formulas and delivery system; and that these things have been helpful in our growth.

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Palm Grain Co., Lowell, Mass.

FEED BUSINESS TRIPLED IN THREE YEARS

Wirthmore service is one of the main things that has helped us to build up our feed business. With this service to help back us up we decided to hire an outside salesman.

Systematic farm calls backed up by Wirthmore service and high quality feeds have made it possible for us to triple our feed business in the 3 years that we have had Wirthmore feeds.

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"Lotta dozen" Says

Push 'Em... More Dealers Do!

"I've seen it myself. Lots of these keen-witted, sharp-eyed, fast-peddling farm dealers just haven't stopped to think that there just might be a real whiz-bang seller in the oyster shell field.

"Have you ever considered why EGGSHELL BRAND Oyster Shell is a top-seller in the industry?

"Could be it's the downright digestible nature of EGGSHELL BRAND. Real palatable to a hungry hen, you know, this pure, soft reef shell.

"Or, maybe it's only because these EGGSHELL BRAND folks just promote the dickens out of their product . . . talking it up in the trade papers . . . always settin' up counter displays . . . and, in general, helping to make sales easy.

"On the other hand, it may be even simpler than that. Might be that dealers prefer 'em because poultrymen prefer 'em. And poultrymen prefer 'em because hens prefer 'em.

"Pretty tricky of us hens, I'd say."

EGGSHELL BRAND OYSTER SHELL
a product of
OYSTER SHELL CORPORATION
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Members of California Turkey Board Named

SACRAMENTO, CAL. — The California Department of Agriculture has announced the appointment of members and alternate members to the California Turkey Promotion Advisory Board.

Nine members and nine alternate members from six districts have been named. They will serve a term ending Feb. 28, 1961. By districts, those appointed are as follows:

North Coast district—Gordon Kirkpatrick, Pope Valley, member; S. Dickinson, Sonoma, alternate.

Sacramento Valley district — Don Bloomstine, Sloughhouse, member; Inman Beck, Orland, alternate.

Northern San Joaquin Valley district—Jack Wharton, Snelling, and Clarence Johnson, Modesto, members; John Williams, Oakdale, and Pete Tesone, Planada, alternates.

Southern San Joaquin Valley district—William Stages, Fresno, and A. L. Arnold, Fresno, members; George Kliwer, Fresno, and Jack Fry, Chowchilla, alternates.

South Coast district—Don J. Peters, Atascadero, member; Hugh Black, Paso Robles, alternate.

Southern California district—Fred Shelton, Claremont, and Robert McPherrin, Sunnymead, members; Fred Huntsinger, Saugus, and Louis Wass, Riverside, alternates.

The board was organized under the California Marketing Act of 1937. Its function is to conduct consumer education and trade promotion activities to develop the market for California turkeys.

Joe S. Berry Retires From Hales & Hunter

CHICAGO—Joe S. Berry, head of the poultry feed department for Red Comb-Pioneer Mills, Inc., retired recently after 36 years in the feed industry.

Mr. Berry joined Hales & Hunter Co. in 1940 and served as manager of its duck fattener department until elevated to head of the poultry department. He previously had spent 17 years in the fattening feeds and biological research departments of Ralston Purina Co.

He plans to catch up on his fishing and then tour Europe with his wife in September and October.

Don M. Smith Carroll Snider

Specifide Names Three Territory Supervisors

INDIANAPOLIS, IND.—Specifide, Inc., Indianapolis, has announced an expansion in its sales program through the hiring of three new territory supervisors in the Midwest.

H. R. Norvell

Don M. Smith will cover western Iowa and Nebraska; Carroll Snider will represent Specifide in northeastern Iowa, southeastern Minnesota, northern Illinois and southern Wisconsin, and H. R. (Buck) Norvell will cover northwestern Iowa.

Mr. Smith has a wide experience in feed sales and service. Educated at Lamoni College and Iowa State University, he entered the feed business in 1932 as a partner in the Ideal Feed Sales Co., Des Moines. Later, he became assistant sales manager for Inland Mills. In 1948, he joined the Borden feed supplements department as its Iowa representative. He left this position recently to join Specifide. His headquarters will be in Jefferson, Iowa.

Mr. Snider has for a number of years represented the S. E. Massengill Co., manufacturing chemists.

Mr. Norvell, Iowa representative for the Davenport Elevator Co. for many years, will work out of Emmetsburg, Iowa.

TO MOVE TO TEXAS

WESTERN GROVE, ARK.—Robert Love, Western Grove, has announced that he will close his Love Feed Store here and go into business in Texas.

STILL ON THE ADVANCE...
THE B&L COMPLETE MOBILE FORMULA FEED BLENDER
Offering Unmatched Maneuverability and Ease of Operation!

Here's the modern mobile feed plant that grinds, mixes, and blends — produces any formula feed right at the barn door. It carries a full day's supply of molasses and supplement, and features micro-ingredient supplement and medicant mixing . . . high speed molasses blending. Top quality feeds from farm grains and roughages.

STANDARD EQUIPMENT ON THE B&L FORMULA FEED BLENDER — The first practical mobile baled hay grinder grinds round and square bales with equal ease.

• GRINDS WHOLE BALES WITH NO EFFORT • LARGE FEED TABLE — 30" ABOVE GROUND • POWER DRIVEN GATHERING FINGERS • VARI-SPEED FEED DRIVE • COMPLETELY ENCLOSED WHEN NOT IN USE • NO EXTRA POWER NEEDED • UTILIZES FULLEST EQUIPMENT EFFICIENCY

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GlyCamide can pay off in increased profits

GLYCAMIDE can help your growers market *more* birds with extraordinary weight gains and feed conversions with an assist from good management (especially in maintaining a deep, dry litter).

GLYCAMIDE, since its early use in the field, has demonstrated remarkable growth-permittant properties. And birds that have been protected by GLYCAMIDE against coxy finished with excellent weight gains and profitable feed conversions... even during periods of depressed prices.

For example, one leading feed manufacturer has disclosed that 2,500,000 broilers on rations containing GLYCAMIDE weighed 3.53 lb. at 9½ to 10 weeks of age with a feed conversion of 2.34. And within this group, 300,000 birds averaged 3.83 lb. *with a point spread of 149!*

GLYCAMIDE for replacement flocks

A good coccidiostat is needed both to protect replacements during the growing period and to minimize the ravages of coxy outbreaks in the laying house. GLYCAMIDE permits development of immunity before pullets are housed. To help prevent costly setbacks due to lost production, recommend the addition of GLYCAMIDE to your starter and grower feeds. GLYCAMIDE—*the safest coccidiostat ever developed for replacement flocks*—will not interfere with weight gains, sexual maturity or subsequent egg production.

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Do you need additional copies (suitable for imprinting) of "Coccidiosis and Poultry Management"? This booklet fully illustrates and describes this important disease to your growers and how it can affect flock health and their profits.

Ask The Merck Man for prices and delivery schedules for GLYCAMIDE and other Merck microingredients and premixes. Or, write to: Agricultural Products Manager, Merck & Co., Inc., Chemical Division, Rahway, New Jersey.

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Animal Taste Findings Told by Dr. Kitchell, Minnesota University

ST. PAUL—Dr. Ralph L. Kitchell, anatomist, University of Minnesota College of Veterinary Medicine, recently commented that understanding some of the mysteries of animal taste mechanisms provides a more scientific basis for finding ways to coax livestock and poultry to eat their feed.

"One of the key problems in livestock and poultry production is that animals often don't eat their feed, regardless of its nutritional value," he said.

Dr. Kitchell has announced a number of animal taste findings made while conducting basic research at the Royal Veterinary College in Sweden. These findings, which he is now using as a basis for further research at the University of Minnesota, include:

● "Artificial sweetening with saccharine wouldn't make feed any tastier to livestock. From what's known, only humans, monkeys and pigeons taste saccharine.

● "Chickens can definitely taste many of the things they eat, but they don't have a 'sweet tooth.' . . . It was once thought these birds couldn't taste anything at all . . . Chickens can taste bitter substances like quinine, while pigeons can't. Thus, farm fowl may turn up their beaks at wild fruit which pigeons eat with relish.

● "Cows, goats and sheep can't taste plain water, but chickens can.

● "Calves can taste sugar—if they move their tongues around while eating it."

As Dr. Kitchell uses the term, "taste" refers only to the responses in the brain resulting from impulses from taste buds on the tongue. He adds that in the broad sense, "taste" is affected by many other things—temperature, odors, smells, appearance and so on. But he feels much basic study on the taste mechanism itself is needed before broader questions can be answered.

At the university, Dr. Kitchell is launching more studies on taste, using cathode ray equipment which measures actual taste responses from nerves which run from the tongue to the brain.

Dr. Kitchell explained that anatomical response to taste actually occurs in one certain area of the brain, where taste impulses are brought via certain nerves from the taste buds on the tongue.

Animals vary widely in their ability to taste things. Some are not affected by certain tastes at all. Chickens, for example, can't taste sugar or saccharine.

Here's how Dr. Kitchell conducts his studies: He puts the animal under anesthetic, just as he would for conducting an operation. The nerves from the tongue are exposed and put on electrodes, which in turn lead to a device called a cathode ray oscillograph.

Then different food substances are placed on the animal's tongue. If there is no taste response to the substance, a line on the cathode ray machine's screen will stay level. But if there actually is a taste response, the nerve will "fire" and cause a bump or peak on the line on the screen. The scientist can then determine the intensity of the taste stimulus according to the frequency of the "firing," or bumps in the line. Photographs of the line movements can be taken to compare taste responses for different animals and for different substances.

Similar Work with Humans

Similar studies were done on humans by scientists in Sweden, and Dr. Kitchell said the taste reactions of man are very similar to what he has found with monkeys.

Many of the studies Dr. Kitchell did in Sweden were on poultry. He used quinine, for example, to see how chickens reacted to a bitter substance. The "firings" on the cathode ray machine were very frequent, indicating an acute sense of taste to this material.

He also found, however, that pigeons and chickens both respond to water more strongly than anything else.

FINDS ANTIBIOTIC IN ANTARCTICA

BLACKSBURG, VA.—A new antibiotic which may be useful in combatting ailments in turkeys and chickens has been discovered in Antarctica by a Virginia Polytechnic Institute scientist.

Dr. John Sieburth, associate professor of bacteriology, who has been doing research in intestinal diseases of chickens and turkeys, made the discovery after study into the reasons why birds in Antarctica have digestive tracts which are almost free of bacteria.

It was found that penguins under study were eating a shrimp-like animal which had antibiotic activity in the stomach contents. Further study revealed the shrimp in turn had been eating phytoplankton (small green algae) which produce the antibiotic. The antibiotic attacks floating bacteria.

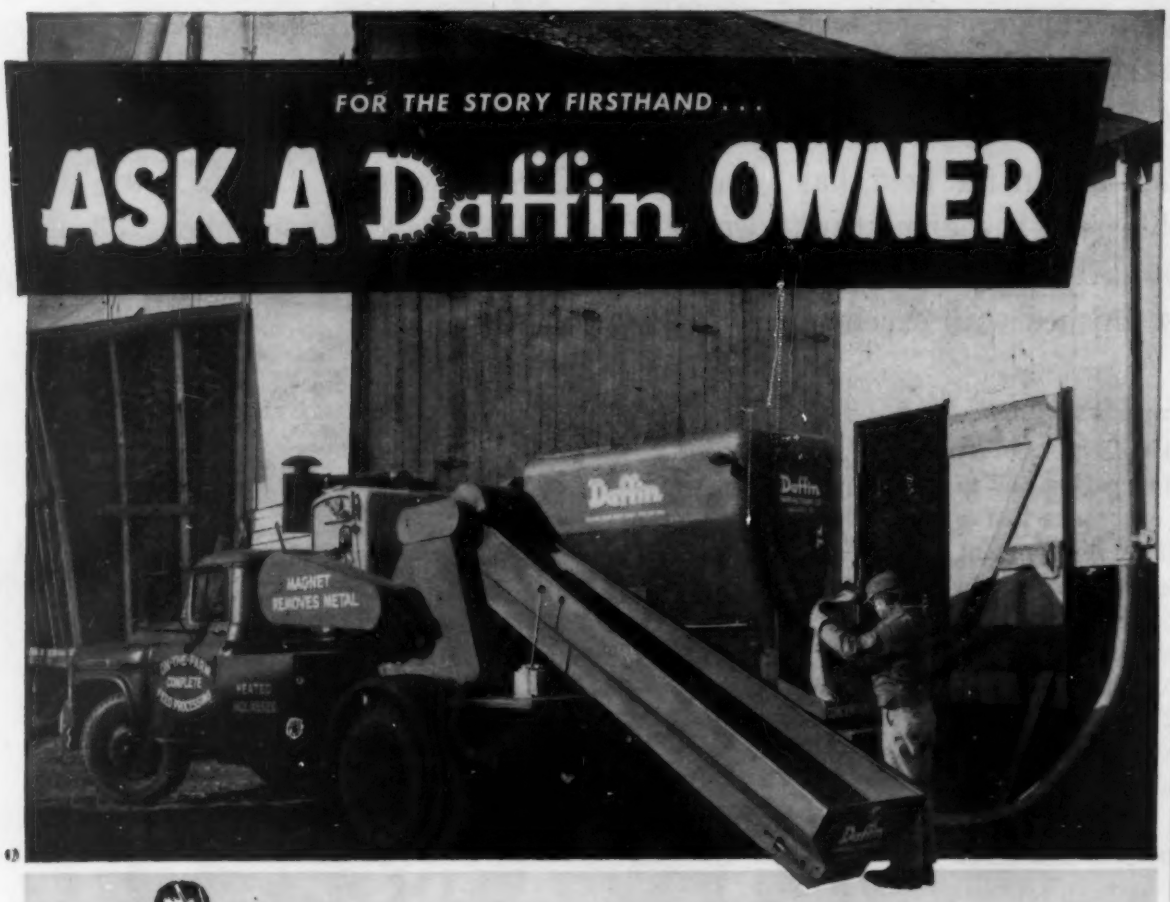
Named Halosphaerin, the antibiotic is believed by Dr. Sieburth to be the first antibiotic important in nature. Most others, he said, are produced by fungi in the soil and are destroyed so rapidly by soil bacteria that they appear to have no real purpose in nature.

Preliminary work with the antibiotic is under way, and it is found to be effective against Staphylococcus aureus. Studies of the antibiotic's effect in the avian digestive tract will also be made.

California Group Sets Dates for Convention

LOS ANGELES — Jack W. Flammer, Flammer Grain Co., Los Angeles, newly-elected president of the California Hay, Grain & Feed Dealers Assn., has announced that the annual convention of the association will be held in Los Angeles in 1960.

The annual meeting will be held at the Ambassador Hotel April 21-23.



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WHY his farm customers like his service . . .

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SUPREME Brand Condensed BUTTERMILK

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THE SWITCH IS TO PACO

Here's the success story of the feed business . . . what dealers and customers* are saying after they've switched to pellets made from Paco!

"They form better . . . with the glossy and slick look I want."

"Moisture doesn't affect my Paco pellets."

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"Nobody told me it was the only binder on the market that was nutritious, too . . . but it sure is."

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**names sent on request*

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Without obligation send the following customer folders:

- ☐ POULTRY FEEDS with PACO
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- ☐ DAIRY and BEEF CATTLE FEEDS with PACO
- ☐ CUSTOM MIX DAIRY FEEDS with PACO
- ☐ FARM USES OF PACO

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PACO MOLASSES DISTILLERS DRIED SOLUBLES

A PRODUCT OF
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COBALT CARBONATE

And want...

Top quality, personalized service, fast delivery

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The above product is produced by Vitro Rare Metals Company and sold by Berkshire Chemicals, Inc.—both component companies of Vitro Corporation of America.

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For well-balanced nutritive feeds

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CORN DISTILLERS SOLUBLES WITH GRAINS

BOTH GRAIN FERMENTATION PRODUCTS

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These economy fortifiers are rich in proteins, vegetable fats, and highly nutritious. They also contain essential Vitamin B-G Complex factors, as well as unidentified growth factors. Mixing Nadrisol or Produlac in your formula feeds will promote quicker growth, greater meat and egg yield and will produce feeds your customers want to buy. It's a good way to gain and hold customer acceptance.

Sold only to manufacturers of formula feeds.

PRODUCT OF NATIONAL DISTILLERS

NATIONAL DISTILLERS PRODUCTS COMPANY

GRAIN PRODUCTS SALES

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Convention Calendar

June 17-18 — Midwest Bulk Feed Fair; Minnesota State Fairgrounds, St. Paul; chm., R. S. Noller, Butler Mfg. Co., 900 6th Ave. S.E., Minneapolis 14.

June 25-27—Canadian Feed Manufacturers Assn.; Bigwin Inn, Lake of Bays, Ontario; N. D. Hogg, Box 66, Station Q, Toronto, Ont.

June 25-27 — Delmarva Chicken Festival; Dover, Delaware; sec., J. Frank Gordy, Delmarva Poultry Industry, Inc., R.F.D. No. 2, Box 47, Georgetown, Del.

July 7-8—Poultrymen's Get-Together, Cornell University, Ithaca, N.Y.

July 10-14 — Georgia Feed Assn.; General Oglethorpe Hotel, Savannah, Ga.; sec., Will L. Kinard, 3240 Peachtree Rd. Bldg., Atlanta 5, Ga.

July 17-18—New Mexico Grain & Feed Dealers Assn.; Castaneda Hotel, Las Vegas, N.M.; sec., Parley Jensen, P.O. Box 616, Albuquerque, N.M.

July 21-23—American Poultry Congress and Exposition; Kiel Auditorium, St. Louis, Mo.; exec. sec., Don M. Turnbull, American Poultry and Hatchery Federation, 521 E. 63rd St., Kansas City 10, Mo.

Aug. 3-8—Feed Microscopy Short Course; Texas Agricultural Experiment Station, College Station; chm., E. E. Brown, Asst. State Chemist.

Aug. 4-5—Midsouth Soybean and Grain Shippers Assn.; Hotel Peabody, Memphis, Tenn.; sec., Paul C. Hughes, P.O. Box 692, Blytheville, Ark.

Aug. 4-7 — Poultry Science Assn. (meeting for members and executive committee invited guests only), Iowa State College, Ames; chm., Dr. Robert E. Phillips, poultry department, Iowa State College.

Aug. 7-8 — North Carolina Feed Manufacturers Assn.; Ocean Forest Hotel, Myrtle Beach, S.C.; sec.-treas., A. M. Upshaw, Jr., North Carolina Feed Manufacturers Assn., Box 44, Mocksville, N.C.

Aug. 10-12 — American Soybean Assn. and National Soybean Processors Assn., joint convention; Sheraton-Jefferson Hotel, St. Louis, Mo.; exec. vice president, George M. Strayer, American Soybean Assn., Hudson, Iowa; sec., National Soybean Processors Assn., R. G. Houghtlin, 3818 Board of Trade Bldg., Chicago 4, Ill.

Aug. 11-12 — Wisconsin Nutrition School; Memorial Union, University of Wisconsin, Madison; chm., Dr. Robert H. Grummer, Dept. of Animal Husbandry, University of Wisconsin.

Aug. 17-18 — Kentucky Feed Conference, sponsored by University of Kentucky and Kentucky Feed & Grain Assn.; Brown Suburban Hotel, Louisville; sec., Jack Weber, P. O. Box 425, Lexington, Ky.

Aug. 23-25—Poultry Industries of Louisiana, Inc.; Captain Shreve and Washington Youree Hotels, Shreveport; sec., Clyde Ingram, Louisiana State University, Baton Rouge, La.

Aug. 23-25 — The National Hay Assn.; Sir Francis Drake Hotel, San Francisco; sec., Fred K. Sale, 600 Board of Trade Bldg., Indianapolis, Ind.

Aug. 24-27—Georgia Poultry Institute; Rock Eagle 4-H Club Center; Eatonton, Ga.; chm., Arthur Gannon, Poultry Division, University of Georgia, College of Agriculture, Athens, Ga.

Sept. 4 — Illinois Cattle Feeders Day, University of Illinois, Urbana; chm., A. L. Neumann, Beef Cattle Division.

Sept. 9-10 — Pet Food Institute, Drake Hotel, Chicago; sec., Clyde Kassens, 332 S. Michigan Ave., Chicago, Ill.

Sept. 9-10 — Maryland Poultry Service Conference; University of Maryland, College Park; chm., Wade H. Rice, University of Maryland, College Park, Md.

Sept. 9-17 — Illinois State Turkey Growers Assn., farm of Clarence Ziemer, Elmwood, Ill.; sec., S. B. Swann, Kauffman Turkey Farms, Waterman, Ill.

Sept. 13-14—Grain and Feed Dealers National Assn. (work meeting for directors, committees and members), Minneapolis; exec. vice pres., Alvin E. Oliver, 400 Folger Bldg., Washington 5, D.C.

Sept. 15-16—Mutual Millers & Feed Dealers Assn.; Jamestown, N.Y.; sec., Margaret Bentley, 41 Chautauqua Ave., Jamestown, N.Y.

Sept. 16-18—National Feed Ingredients Assn.; Pick-Congress Hotel, Chicago, Ill.; sec., Peter W. Janss, 212 Equitable Bldg., Des Moines, Iowa.

Sept. 17-18 — Arkansas Formula Feed Conference; University of Arkansas, Fayetteville; chm., Dr. E. L. Stephenson, Department of Animal Industry.

Sept. 18 — College-Feed Industry Conference; Iowa State College, Ames; chm., Prof. Emmit Haynes, Animal Husbandry Dept.

Sept. 23 — Vermont Feed Dealers and Manufacturers Assn.; University

New Listings

For the convenience of readers who scan the Convention Calendar regularly for new listings, those added to the column in the current week appear separately from ones which have been entered previously. The following week they will be moved to their proper slot where they will remain until the event is held.

• • •

Sept. 4—Swine Day; University of Missouri, Columbia; chm., Prof. Leland Tribble, Animal Husbandry Department.

Sept. 15-17—Dixie Poultry Exposition; Asheville, N.C.; sec., N. B. Nicholson, Monroe, N.C.

Sept. 29-30 — Pacific Northwest Garden Supply Trade Show; Masonic Temple, Portland, Ore.; mgr., Russ Hays, 702 Lewis Bldg., Portland, Ore.

Nov. 27-28 — American Society of Animal Production; Sherman Hotel, Chicago, Ill.; sec., Dr. H. H. Stonaker, Colorado State University, Ft. Collins, Colo.

1960

Jan. 17-19—Indiana Grain & Feed Dealers Assn.; Claypool Hotel, Indianapolis, Ind.; sec., Fred K. Sale, 600 Board of Trade Building, Indianapolis 4, Ind.

March 17-18—Oregon Feed & Seed Dealers Assn.; New Sheraton Hotel, Portland, Ore.; mgr., Russ Hays, 702 Lewis Bldg., Portland, Ore.

April 21-23—California Hay, Grain & Feed Dealers Assn., Ambassador Hotel, Los Angeles; sec., John Gilmore, Blue Anchor Bldg., 1400 10th St., Sacramento 14, Cal.

of Vermont, Burlington, Vt.; sec., D. C. Henderson, Hills Agricultural Science Building, Burlington, Vt.

Sept. 23-25 — Feed Production School; Continental Hotel, Kansas City; sponsored by Feed Production School, Inc.; pres., Lloyd Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

Sept. 26—Small Mill Short Course; Continental Hotel, Kansas City; sponsored by Feed Production School, Inc.; pres., Lloyd Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

Oct. 6-8 — Northeastern Poultry Producers Council Exposition and Convention; Farm Show Building, Harrisburg, Pa.; chm., Alfred Van Wagenen, 10 Rutgers Place, Trenton 8, N.J.

Oct. 7-9—Texas Nutrition Conference; Texas A&M College, College Station; chm., Dr. J. R. Couch, Department of Poultry Science.

Oct. 11-14—Kentucky Poultry Federation and Kentucky Poultry Improvement Assn.; Cumberland Falls State Park, Corbin; sec., John W. Tuttle, 730 Rose St., Lexington, Ky.

Oct. 14 — Animal Nutrition Research Council; Shoreham Hotel, Washington, D.C.; sec., Irwin Olcott, Dawe's Laboratories, Inc., 4800 S. Richmond St., Chicago 32, Ill.

Oct. 14-15—Association of American Feed Control Officials; Shoreham Hotel, Washington, D.C.; sec., Bruce Poundstone, Agricultural Experiment Station Bldg., University of Kentucky, Lexington, Ky.

Oct. 15-16—Michigan Feed & Grain Dealers Assn.; Kellogg Center, Michigan State University, East Lansing, Mich.; sec., Nevels Pearson, P.O. Box 472, East Lansing, Mich.

Oct. 15-16 — West Virginia Feed Dealers Assn. convention; Blackwater Falls Lodge, Davis; sec., J. S. Larrick, Beckley Ice & Feed, Beckley, W. Va.

Oct. 19-20—California Animal Industry Conference; Fresno Memorial Auditorium, Fresno, Cal.; sponsored by California Hay, Grain & Feed Dealers Assn. and University of California; chm., Berton Maxwell, Poultry Producers of Central California, Petaluma.

Oct. 20-21—Virginia State Poultry Federation; Hotel John Marshall, Richmond, Va.; sec., J. Paul Williams, 615 E. Franklin St., Richmond 19, Va.

Oct. 22-23 — Annual Stockholders Meeting, Cooperative G.L.F. Exchange, Inc., Onondago County War Memorial Building, Syracuse, N.Y.

Oct. 30 — Illinois Sheep Producers Day; University of Illinois, Urbana; chm., Dr. U. S. Garrigus, Department of Animal Science.

Nov. 4-7 — National Renderers Assn., Hollywood Beach Hotel, Hollywood Beach, Fla.; sec., Miss Jamie Fox, 30 N. La Salle St., Chicago 2, Illinois.

Nov. 6-7—Oklahoma Formula Feed Conference; Oklahoma State University, Stillwater; chm., Dr. Rollin H. Thayer, Poultry Science Department.

Nov. 12-13—Cornell Nutrition Conference; Hotel Statler, Buffalo, N.Y.; chm., Dr. F. W. Hill, Poultry Husbandry Dept., Cornell University, Ithaca, N.Y.

Nov. 17-18—Arizona Grain & Seed Association; Hotel Westward Ho, Phoenix; sec., Hayden C. Hayden, Hayden Flour Mills, Box 156, Temple, Ariz.

Nov. 19-20—National Swine Industry Conference; Iowa State College, Ames; chm., Keith Myers, National Swine Growers Council, Grundy Center, Iowa.

Nov. 30-Dec. 1 — Midwest Veterinary Nutrition Conference; President Hotel, Kansas City; sec., Lloyd Larson, Midwest Feed Manufacturers Assn., 20 W. 9th Street Bldg., Kansas City 5, Mo.

Dec. 8-9 — Poultrymen's Service Clinic; Cornell University, Ithaca, N.Y.

1960

Jan. 4-5 — Kansas Formula Feed Conference; Kansas State University, Manhattan, Kansas.

Jan. 25-27 — Southeastern Poultry & Egg Assn.; Municipal Auditorium, Atlanta, Ga.; sec., Harold E. Ford, 235 E. Ponce de Leon Ave., Decatur, Ga.

Feb. 4-5—Oregon Animal Industry Conference; Oregon State College, Corvallis, Ore.; chm., Dr. J. E. Parker, Poultry Husbandry Department.

Feb. 8-9—Montana Nutrition Conference; Montana State College, Bozeman; chm., Dr. O. O. Thomas, Animal Industry Dept.

Feb. 11 — Boston Grain and Flour Exchange Annual Banquet; Sheraton-Plaza Hotel, Boston; chm., Paul Sutliff, 177 Milk St., Boston, Mass.

Feb. 12-14—Fact Finding Conference, sponsored by the Institute of

(Turn to page 42)

CALENDAR FOR 1959-60

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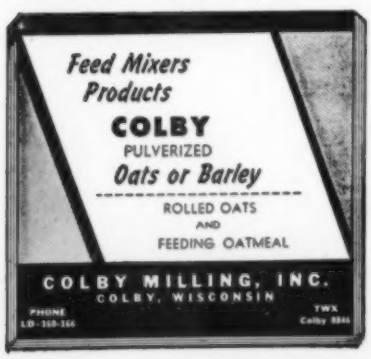

Engineered for efficiency and economy

the new AIR UNLOADING

DORSEY BULKMASTER MODEL J-A

FASTER
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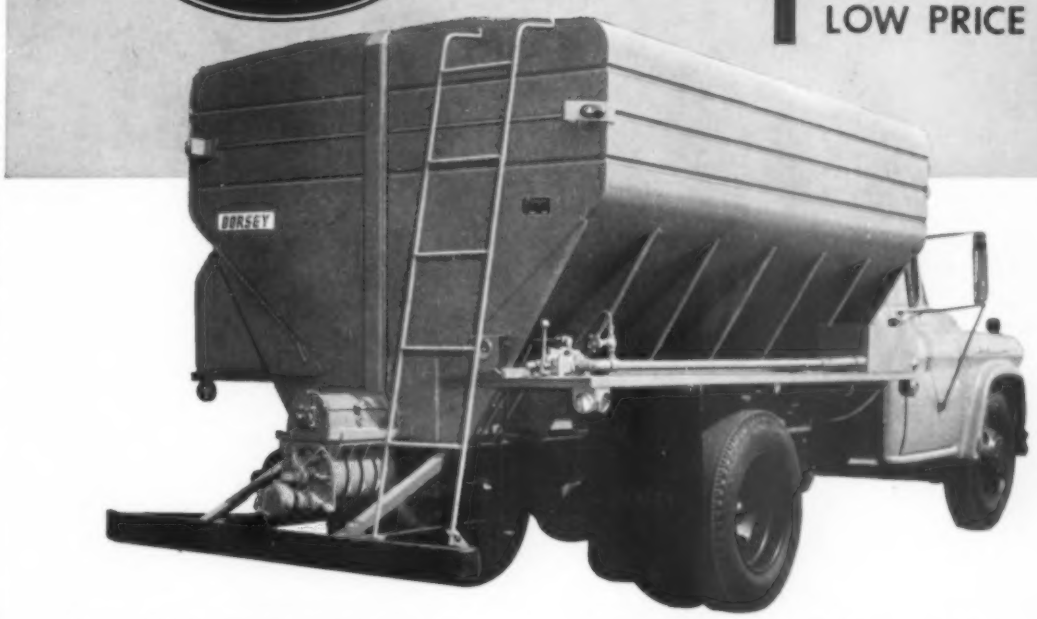
LOW PRICE



Now, the versatility of air unloading at a new low price! Yet, like all other models in the famous Bulkmaster line, this all-new body is ruggedly built with many quality features for long-lasting, trouble-free service. Large 6″ screw conveyor and specially-designed rotary air lock feeder are hydraulically-powered to allow complete control of feed flow. A new, lightweight blower provides a medium pressure air stream that's quieter than ever before and holds pellet breakage to a minimum! The model J-A is available in lengths from 10 to 16 feet, and as optional, in high-cube design for increased capacities when handling lightweight feeds. Other top-line features include:

- *All-steel, electrically-welded body, ribbed for extra strength*
- *32″ x 32″ sliding hatch covers with foam rubber seals*
- *Rear-mounted throttle*
- *Tachometer*
- *Four 9-foot sections of flexible metal hose*
- *Easily-accessible rear ladder*
- *Automotive-type bumper*
- *ICC lights, rear directionals*
- *Compartments*

For the full facts on the J-A, see your Dorsey Bulkmaster distributor or MAIL THE COUPON

DORSEY BULKMASTER

DORSEY TRAILERS
ELBA, ALABAMA

DORSEY TRAILERS
Elba, Alabama

RUSH literature on the all-new Model J-A

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COMPANY_____

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How to put real teeth in your

"MORE-EGGS-AT-LESS-COST"

Sales Claims

Make your feeds with potent Terramycin®

Look at the sales story you'll have:

MORE EGGS PER HEN...

...6% -37% more... when colleges put hens on laying feeds containing Terramycin. Based on typical production figures* the lowest rate (6%) represents an extra $6.89 egg income for your customers with every ton of your feed—*nearly 2¢ less feed cost per dozen eggs.*

LESS FEED COST PER DOZEN

...3.7% to 24% greater feed efficiency when colleges fed birds quality laying feeds containing Terramycin. Based on typical production figures, this represents an important feed saving for your customers—*about 1¢ to 6¢ per dozen eggs.*

* Based on an average of 200 eggs per hen per year (1958 poultry industry estimate). 0.28 lb. feed per bird per day (light breeds), a selling price of 35.2¢ per dozen eggs (USDA 1957 average price paid on the farm) and feed costing $90 per ton.

It worked for the Fersdahls... *it can work for your customers*

Mr. & Mrs. John Fersdahl
Renner, S. D.

"We've used an Extra-Production Laying Feed containing Terramycin for about 4 years and found our flock produced well on it, year after year.

In a 3-month test during the 1957-58 season, our flock topped 162 producers in an area of 6 states.

Those birds showed an average of 86% production during the November to February period.

They produced a dozen eggs on 4.1 lbs. feed for a total feed cost of 11.63¢ (using a concentrate, fed 1:2 with home grown grains).

This year, with continued high production and low prices for corn, feed costs were lower — 9.4¢ per dozen during Dec., 10.3¢ in Jan.

HERE IS THE FERSDAHLS' RECORD

DECEMBER 1957—876 birds produced 23,667 eggs on 8,672 lbs. feed or 4.3 lbs. feed per dozen eggs at a cost of 11.8¢ per dozen.

JANUARY 1958—873 birds, 22,635 eggs, 8,493 lbs. feed, 4.5 lbs. feed per dozen eggs at a cost of 12.4¢ per dozen.

DECEMBER 1958—876 birds, 21,313 eggs, 5,720 lbs. feed, 3.2 lbs. feed per dozen eggs, costing 9.4¢ per dozen.

JANUARY 1959—874 birds, 21,313 eggs, 6,308 lbs. feed, 3.8 lbs. per dozen eggs, costing 10.3¢ per dozen.

AVERAGE WINTER PRODUCTION

- over 80% production in winter months
- on 3.95 lbs. feed per dozen eggs
- at a feed cost of 10.9¢ per dozen

Extra-Production Laying Feeds with **potent Terramycin**®

BRAND OF OXYTETRACYCLINE

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Chas. Pfizer & Co., Inc.
*Science for the world's well-being**

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*TRADEMARK

POULTRY TRANQUILIZER DISCUSSION—Participating in a recent conference on the use of Serpasil, a reserpine-type tranquilizer, in poultry production at Rutgers University are (from left): Dr. Robert L. Squibb (standing), conference chairman and head, Rutgers department of poultry science; Dr. T. M. Huston, University of Georgia; Walter Barrett of Ciba, the firm which sponsored the conference; Dr. Harold Weiss, Rutgers; Dr. Oliver H. Hewitt, Cornell; Dr. Ray E. Burger, University of Minnesota; Dr. Donald Anderson, University of Massachusetts; Dr. C. W. Carlson, South Dakota State College; Dr. Paul D. Sturkie, Rutgers, and Dr. Robert Ringer, Michigan State University. Dr. J. R. Couch, Texas A&M, one of the speakers, is not pictured. (A review of conference talks appeared in the May 9 issue of Feedstuffs on page 10.)

American Poultry Industries; Municipal Auditorium, Kansas City, Mo.; pres., Harold M. Williams, 59 East Madison, Chicago, Ill.

Feb. 21-23 — Ohio Grain & Feed Dealers Assn.; Commodore Perry Hotel, Toledo; sec., G. E. O'Brien, 694 N. Ohio Street, Greenville, Ohio.

Feb. 22-23—Virginia Feed & Nutrition Conference; Hotel Roanoke, Roanoke; J. Paul Williams, sec., Virginia State Feed Assn., 615 E. Franklin St., Richmond, Va., or Prof. Paul M. Reaves, Department of Dairy Science, Virginia Polytechnic Institute, Blacksburg, Va.

March 7-8—Grain & Feed Dealers National Assn.; Hotel Muehlebach, Kansas City; sec., Herbert L. Sharp, 400 Folger Bldg., Washington 5, D.C.

March 23—Distillers Feed Conference; Sheraton Gibson Hotel, Cincinnati; sponsored by Distillers Feed Research Council; exec. director, Dr. Lawrence E. Carpenter, 1232 Enquirer Bldg., Cincinnati, Ohio.

Hugh Murphy Named To Seco, Inc., Post

GOODLETTSVILLE, TENN. — Hugh Murphy has been appointed as a representative for Seco, Inc., in western Tennessee and Arkansas, announced Paul Zimmerman, executive vice president and general manager of Seco. The firm manufactures mobile feed mills.

Hugh Murphy

Mr. Murphy, well-known in farm, news and general broadcasting circles for 20 years, is a graduate of Arkansas College, and holds a law degree from the University of Memphis School of Law.

He was newscaster for WREC, Memphis; farm director and promotion director for WHBQ, Memphis, and commercial manager for KTHS, Little Rock, Ark. He has been associated with the Lake Spiro Shurman Advertising Agency, and more recently the Brick Muller & Associates firm.

8 Recommendations Made in Freight Case

STOCKTON, CAL. — Eight recommendations have been made by an examiner in a review of Public Utilities Commission freight rate case 5432, according to Edwin A. Kauppila, Stockton Grain Exchange.

William E. Turpen, the PUC examiner, recommended that:

(1) The grain list be revised to include articles which have been added by rail carriers since 1938;

(2) "Cake mixes" be granted an exception rating of 90% of fourth class, subject to a minimum weight of 10,000 lb. and a class B rating on a minimum of 40,000 lb.;

(3) Special rates and mileages for short distances in the Imperial Valley should be cancelled;

(4) There be no change in the present demurrage item which now provides for a four-hour free period with a charge of 2½¢ cwt. for time in excess of four hours;

(5) There be allowed one free stop in transit for inspection and a charge of $2 for a second stop;

(6) The field pick up revision be approved as suggested. (A field pick up was defined as being from more than one point in a single field. The examiner turned down the suggested 3¢ cwt. advocated by the California Trucking Assn. and recommended the original 2¢ cwt. when a field pick up from two or more points is made. It was recommended also that field pick up be made applicable to rice.)

(7) Rice be added to the suggested grain rate brackets of 10,000, 20,000, 30,000 and 40,000 lb., thus putting rice on a par, from a rate standpoint, with grain. (Rice would continue to be subject to the San Francisco-Oakland average mileage provisions from which the grain rates are now exempt.)

(8) Rates on grain, grain products and rice be approved as proposed.

Mr. Kauppila said the examiner's report apparently incorporates the recommendations of the transportation committee of the Stockton Grain Exchange.

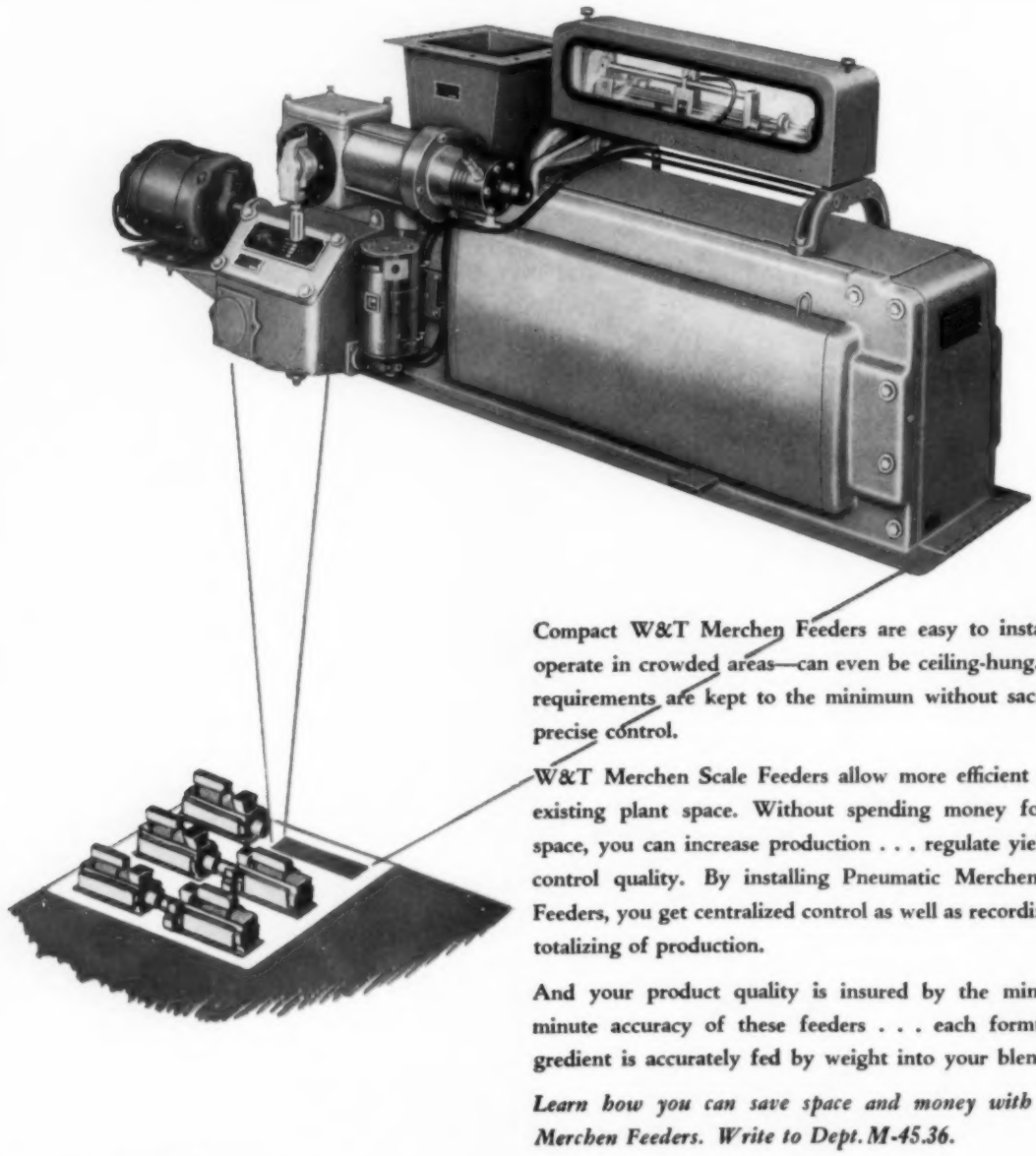
Named Distributors

EAST ST. LOUIS—Two firms have been appointed distributors for the Dura-Buket division of the National Oats Co., East St. Louis. They are the Ohio Belting & Transmission Co. and the Ohio Transmission Co.

Ohio Belting will serve a territory of 100 miles around Toledo, Ohio, and Ohio Transmission will cover a 100-mile area around Columbus, Ohio.

Get more blending in less space...

SIX MERCHEN FEEDERS IN 120 SQUARE FEET



Compact W&T Merchen Feeders are easy to install and operate in crowded areas—can even be ceiling-hung. Space requirements are kept to the minimum without sacrificing precise control.

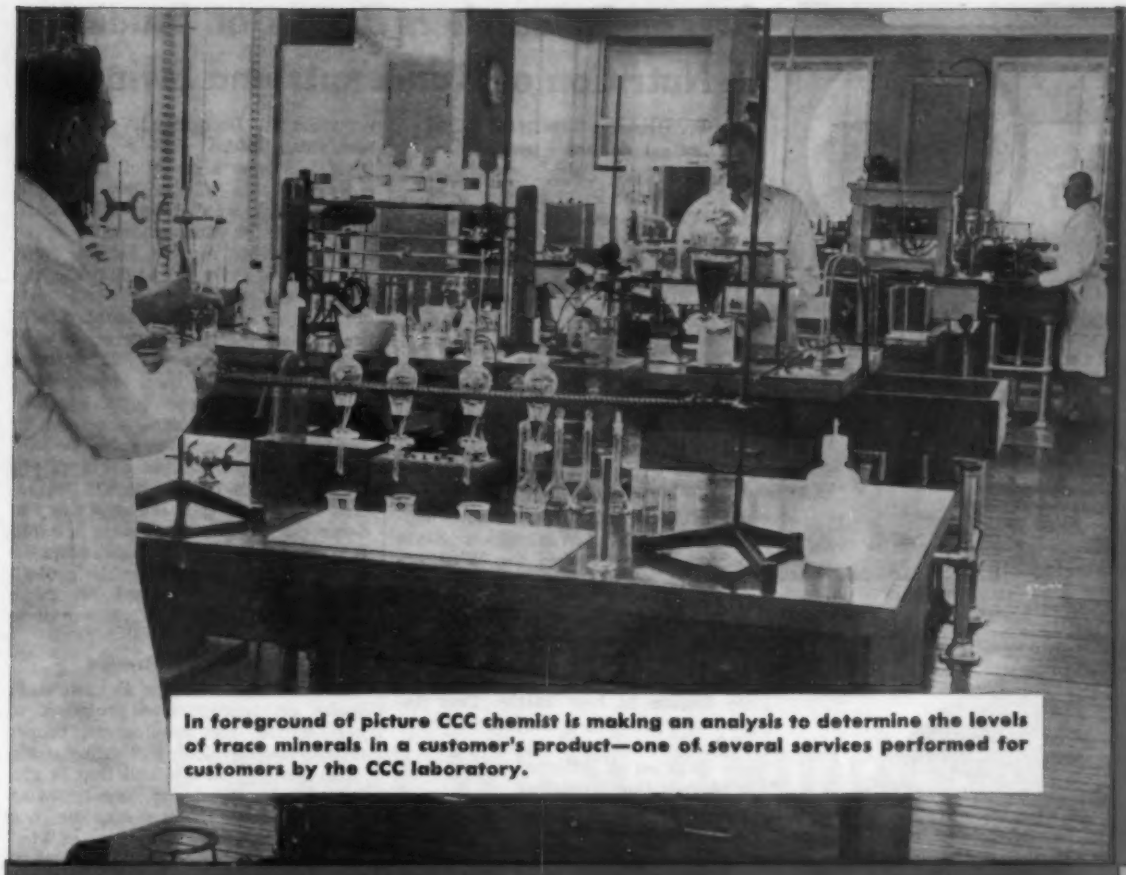
W&T Merchen Scale Feeders allow more efficient use of existing plant space. Without spending money for new space, you can increase production . . . regulate yield . . . control quality. By installing Pneumatic Merchen Scale Feeders, you get centralized control as well as recording and totalizing of production.

And your product quality is insured by the minute-to-minute accuracy of these feeders . . . each formula ingredient is accurately fed by weight into your blend.

Learn how you can save space and money with W&T Merchen Feeders. Write to Dept. M-45.36.

WALLACE & TIERNAN INCORPORATED

25 MAIN STREET, BELLEVILLE 9, NEW JERSEY



In foreground of picture CCC chemist is making an analysis to determine the levels of trace minerals in a customer's product—one of several services performed for customers by the CCC laboratory.

The Three Puritans

The Three Puritans symbolize the three CCC quarries—in Quincy, Illinois; Carthage, Missouri and Weeping Water, Nebraska—so called because of the high purity of the deposits.

Let CCC Trace Mineral Research Work For You

The efficiency of CCC Trace Mineral Premixes is the result of exhaustive research in the laboratory, in experimental work in cooperation with leading universities, and in actual use testing.

This extensive CCC research and quality control program assures you that CCC trace mineral premixes are the most advanced and thoroughly tested trace mineral premixes available.

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Calcium Carbonate Company

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CCC Trace Mineral Premixes

CCC Calcium Carbonate

CCC *Products...*

Calcium Carbonate—any desired grind.

Electro (free flowing) Calcium Carbonate.

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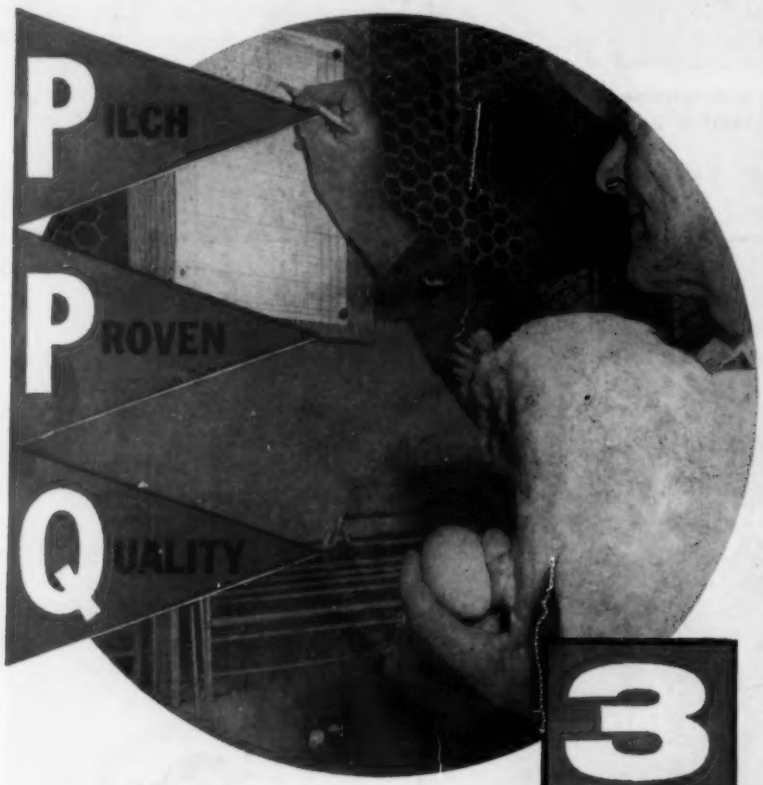

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Oregon Researchers Report on Studies In Nutrition of Ruminants and Swine

By W. DEAN FRISCHKNECHT
Animal Husbandry Specialist

CORVALLIS, ORE.—The annual Beef and Swine Field Days at Oregon State College recently attracted 400 producers from throughout the state. This event was co-sponsored by the OSC department of dairy and animal husbandry and Western Oregon Livestock Assn. General chairman was Dr. Jack Miller, head of the department of dairy and animal husbandry.

Guest speakers from out-of-state were John H. Knox, head of the animal husbandry department, New Mexico State College, who spoke on improving productivity of beef cattle, and Rudy Setzler, extension livestock specialist, Washington State College, who reviewed the Washington swine testing program.

White Muscle Disease

Of special nutritional interest was the report given by Dr. J. E. Oldfield, Oregon State College, on white muscle disease in beef cattle. This disease gets its name from characteristic white, damaged areas that appear in the muscles of affected animals. It is of nutritional origin.

Young animals are most frequently affected, with the majority of calf losses occurring within 8 to 10 weeks after birth. Occasionally, white muscle damage has been detected in stillborn calves, indicating the disease may begin prenatally. The dams of these affected calves do not seem to be affected.

In some experiences where cows in one specific location have given birth to "white-muscle calves," sale and movement of the cows to other areas and different feed conditions have stopped the trouble. Instances of this type suggest that the feed given cows during gestation is the primary cause of white muscle disease. In Oregon, legumes like alfalfa and Ladino clover have often been implicated. This does not mean that other forages could not be involved, nor does it mean that all of these legume crops are dangerous. A great deal of alfalfa and Ladino clover is fed annually with no difficulty whatsoever.

Experimental studies at the Oregon Agricultural Experiment Station have been designed to (1) produce white muscle disease experimentally under carefully controlled conditions, and (2) prevent onset of the disease under conditions which would normally cause it. Both cattle and sheep have been used.

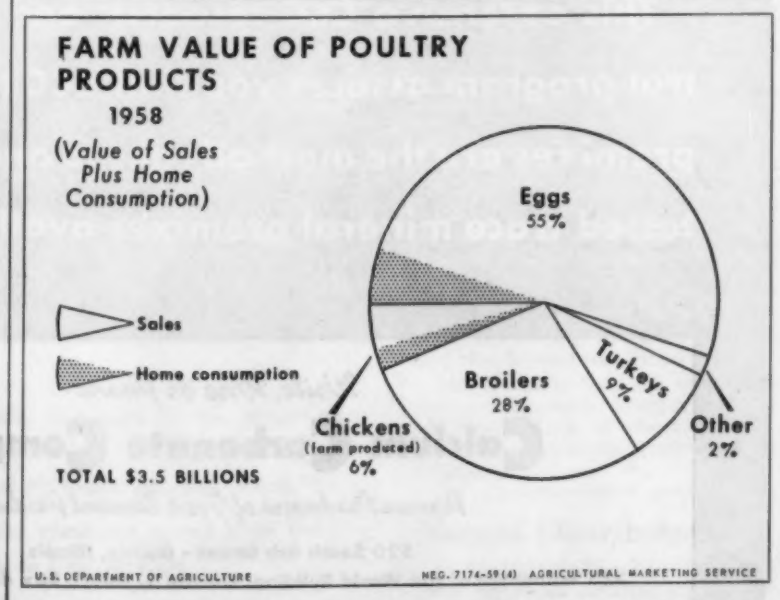
In 1956 from a group of 10 mature cows fed only alfalfa hay from a white muscle area, nine calves were born, seven of which showed definite signs of white muscle disease damage. Four of these calves died suddenly from the heart form of white muscle disease. After this beginning, several other experiments were run with sheep to investigate possible methods of control. It has been shown that feeding dams a supplement containing the trace element selenium in amounts sufficient to supply one part of selenium per million parts of dry matter in the diet is highly protective. Neither feeding nor injecting the dams during gestation with vitamin E proved helpful. There are some indications that feeding certain protein supplements, like linseed oil meal, may aid in preventing white muscle disease.

Nutrition for Breeder

Dr. McKenzie, of the Oregon staff, spoke on reproductive problems of beef cattle, and emphasized proper nutrition in developing breeding stock. "That three-year-old bull that is giving you trouble today, fertility-wise, may be doing so because he was 'short-changed' his first year of life," Dr. McKenzie said. "If he had rough going as a calf or weaner, and suffered a set-back then, even though he has outgrown it since in size and appearance, it could very well be that his reproductive system was hit at that critical age, and has never fully developed in that respect. Moral: Pay particular attention to developing out young stock destined for the breeding herd, and thus insure fullest capacity for reproduction."

Dr. David C. England, OSC, reported on results of feeding grain at various levels to weaner steers over a 250-day fattening period. Feeding grain on a sliding scale of ½% for the first third of the feeding period, 1% during the middle third, and 1½% during the last third resulted in faster average daily gains, lower cost per pound of gain, higher carcass grade and greater net return than feeding the same total amount of grain but at 1% of body weight throughout the experiment, he said.

Dr. Ralph Bogart, OSC, reviewed some of the chemical studies made on blood, urine and certain enzymes. He said these data are related to production traits such as rate of gain and



POULTRY FARM VALUES INCREASE—Gross income from poultry enterprises on farms was higher in 1958 than in any other year since 1953. At $3.5 billion, the 1958 combined value of sales plus home consumption of eggs, farm "by product" chickens, broilers, turkeys and other poultry was 8% higher than in 1957, but considerably below the highs of almost $4 billion in 1951 and 1953. This chart shows the percentage share of each of the major poultry products in 1958.

Lilly INTERVIEWS
ALBERT KOLLER, PARKER, S. D.

"I wish we'd found Hygromix worm control 40 years ago!"

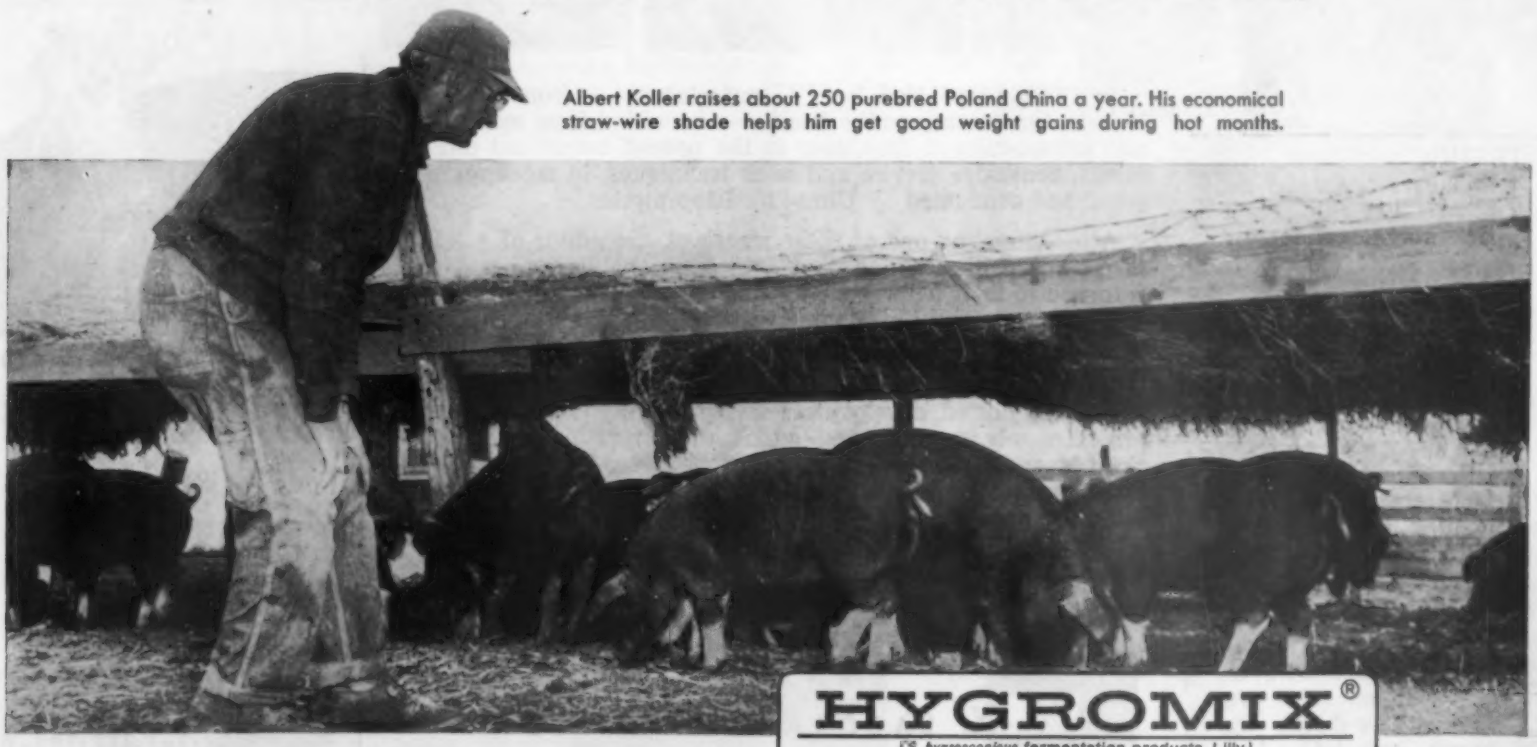
"Old-type wormers were either too hard on the pigs or didn't get the job done," says veteran Poland China breeder.

by Eugene S. Hahnel

Over the years, Mr. Koller has tried just about everything to solve the problem of swine worms. In October 1957, he tested Hygromix feed on 100 pigs. They were kept on Hygromix until they reached about 90 pounds. At around 80 pounds, he test-wormed them with a "one-shot" wormer. The results? In Mr. Koller's own words, "This Hygromix was doing a real job . . . it's the best wormer we've ever had on the market so far. It stops the worm problem from getting started. Old-type wormers were either too hard on the pigs or didn't get the job done satisfactorily."

With those words, Mr. Koller shows that he understands what Hygromix is all about. *Three* of the most damaging kinds of worms never get a chance to mature and lay eggs. Day after day, Hygromix kills new, young worms as they enter the intestines. You need no longer sit and wait for the right time to purge worms, and worry about the damage they're doing in the meantime. Just keep Hygromix-fortified starter and grower rations before your pigs until they reach 100 pounds. By that time you will have protected them against worms clear through the critical period when worms do the most damage.

Albert Koller raises about 250 purebred Poland China a year. His economical straw-wire shade helps him get good weight gains during hot months.



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feed efficiency. This phase of work is concerned with determining why some animals do better than others and what physiological mechanisms are involved. The phosphatase enzymes have been found to be associated with rate of gain in our cattle. Dr. Bogart also said about 2 to 4% of our animals bloat. When bloaters are mated with bloaters and to their very close relatives, 50 to 65% of the offspring bloat. This demonstrates that the tendency to bloat is under genetic influence and that bloating can be reduced by selection.

Feeding Pre-Weaning Pigs

Feeding pre-weaning pigs was the subject discussed by Dr. Oldfield the second day. Among farm animals, the young pig is unique in its extremely fast rate of growth, he said. Pigs that weigh 2 to 3 lb. at birth will double their birth weight in a week, quadruple it in three weeks and will often have reached 17 to 25 times their birth weight by the conventional weaning time of eight weeks. Such rapid growth naturally makes exacting nutritional demands both in terms of quantity and quality of feed. Normal management practices often call for sows and litters to be raised in drylot conditions, which means that the young pigs must depend entirely during this critical period upon two sources of nutrition: (1) the milk of the sow, and (2) "creep" feeds prepared to supplement the sow's milk.

Dr. Oldfield said that while milk has been called the "perfect food," there are two serious problems concerned with its use as the sole diet of these young, fast-growing pigs. The first of these is quantitative. Experiments measuring the amount of milk given by sows have shown that it increases from farrowing time for about three weeks, and then starts to drop off. Meanwhile, the young pigs continue to grow—therefore, some sort of supplementary feed must be provided. The solution is to make available a good creep feed which is nutritious and palatable enough so the young pigs will begin taking it before the critical three-week point. Nutritionally, the pre-weaning feeding should contain 18 to 20% crude protein, about half of which should come from animal sources, and not more than 6 to 7% fiber.

The second problem in raising pigs to weaning on milk alone is qualitative. Although milk is rich in high-quality protein and many essential minerals and vitamins, it is deficient in iron. Since iron is needed for blood formation, the young pig that gets nothing but milk literally outgrows his blood supply and becomes anemic.

Enzymes in Barley

Enzyme supplements in barley rations for hogs were discussed by L. M. Larsen, graduate assistant.

Enzymes used have been primarily the type which aid starch digestion. The first experiment discussed also compared corn to barley. (One or the other of these grains was the sole grain in the ration.)

The barley rations promoted a rate of growth 86% as rapid as the corn rations, and required 10% more feed per pound of gain. In the case of pigs that were an average of 10 lb. lighter at the start of the trial, there appeared to be some improvement due to the addition of the enzyme. Heavier pigs did not respond.

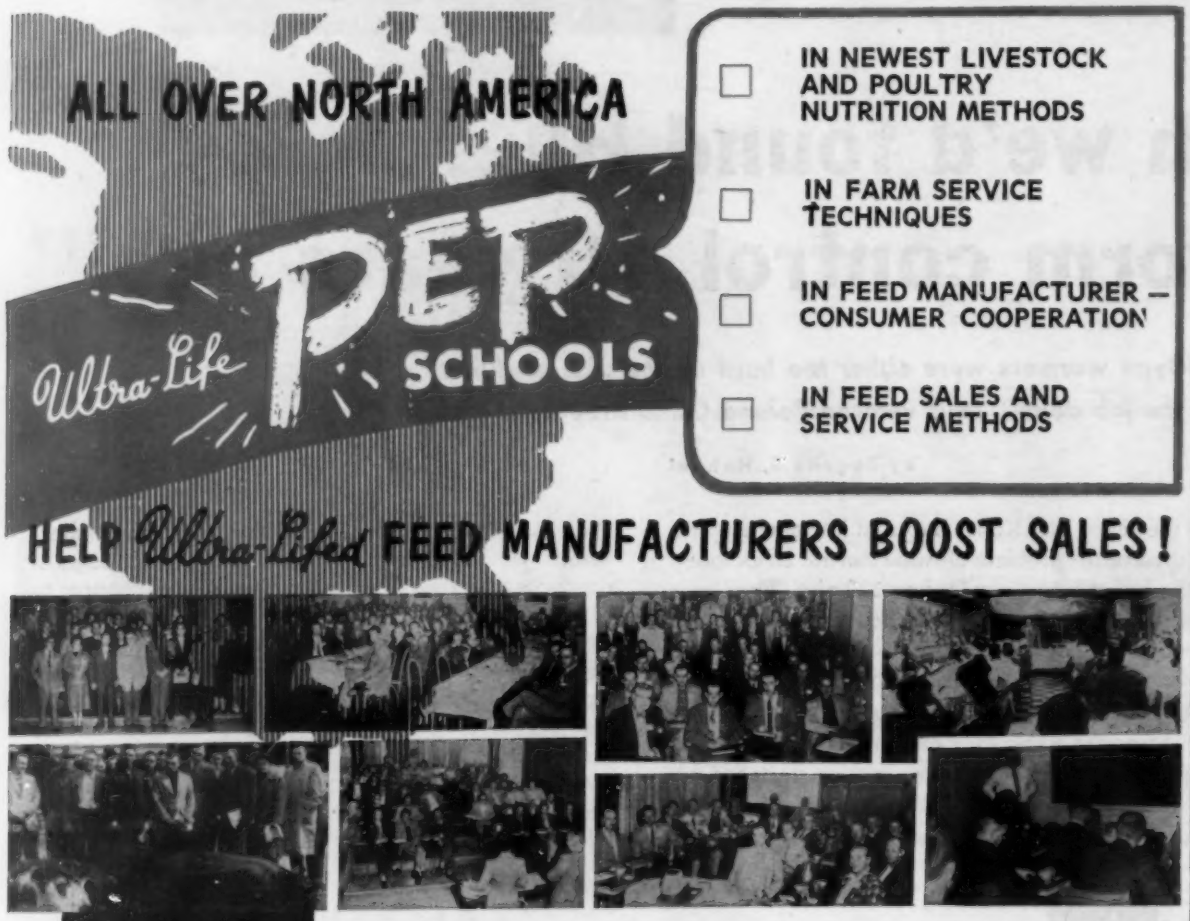
Another enzyme preparation evaluated in a second trial yielded similar results. Two groups of nine pigs each were compared. The group receiving enzyme gained 1.55 lb. per day, and the one without enzyme 1.51 lb. per day. There was no difference in feed efficiency.

A third experiment studied the effect of soaking whole barley for a period of eight hours, after which it was dried, ground and included in the complete ration. In addition, barley malt (which contains natural enzymes) and a third synthetic enzyme product were evaluated, both when soaked with barley and when added to the dry ration. There was no advantage to soaking whole barley alone. There was some indication that soaking of barley with 2.5% malt was of value, especially in reducing the feed required per pound of gain. In the trial, the addition of enzymes to the dry ration was not effective in improving barley for growing fattening pigs.

One experiment has been completed this year in which pigs fed a pelleted barley ration gained an average of 1.57 lb. per day with a feed conversion of 3.46, and those on the same ration in a meal form gained 1.44 lb. per day with a feed conversion of 3.52. In this instance, the pellets were crumbling in the feeders. Yet pigs on these crumbly pellets ate more and gained faster. The saving in feed per pound of gain was less than 2%. This indicates that a primary advantage to pelleting from a nutritional standpoint is shortening of the feeding period.

Swine Evaluation

Swine breeding research and evaluation in Oregon was discussed by Dr. England. He said variation in the economic traits of swine-prolificacy, survival ability, growth rate, feed efficiency and carcass merit are of greater magnitude than commonly recognized by the producer who does not keep performance records. Results at a midwest swine testing station for a single test show a range in average daily gain from 1.3 lb. to 2.4 lb.; backfat thickness varied from 1.16 in. to 2.16 in.; loin eye area varied from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2.4 sq. in. to 4.6 sq. in.; weight of lean cuts ranged from 28.8 to 38.8% of the live weight. In the Oregon State College Berkshire herd during the 1958 performance test period, average daily gain ranged from 1.21 lb. to 1.99 lb. Feed per pound gain ranged from 3.09 to 4.65. Furthermore, the average range in average daily gain within litters was .38 lb. Thus, it is evident that not only is there extensive variation between breeds and herds but between litters within the same herd and even within litters.

The Oregon State College performance testing program is designed to provide information on performance level of each individual for prolificacy, survival ability, growth rate and conformation and indication of carcass merit. Feed efficiency is measured on a litter basis. Inasmuch as feed efficiency and growth rate are positively correlated to a high degree, selection of fastest growing pigs from most efficient litters results in near maximum selection for feed efficiency as well as for those traits measured on an individual basis.

Mating Systems

Utilization of performance test data must be made through use of appropriate mating systems. The OSC herd is maintained as a closed herd with a high ratio of males to females. Advantages of the high male to female ratio are: (1) An increase in inbreeding is relatively slow. Increased opportunity for desirable new combinations of favorable heredity is thereby provided. (2) Use of several sires insures offspring from good sires each generation. The probability of an unfortunate choice of a sire is very much higher for a single sire than for three or four sires.

Swine producers, Oregon State College personnel, and allied industry leaders are all interested in sound development of Oregon's swine industry. We are now constructing a swine testing center on the Umatilla Branch Experiment Station at Hermiston through a gift from the Oregon Wheat Commission. This station will serve interested purebred breeders of all breeds and areas of the state. Functions of the station will be to test boars and market hogs for growth rate, feed efficiency and carcass characteristics to obtain information that will identify superior animals and herds. Such identification will make possible rapid improvement of Oregon's seedstock swine herds. Commercial swine production will reflect the effects of this seedstock improvement.

Sheep and Wool Field Days will be held at Oregon State College November 13-14, 1959.

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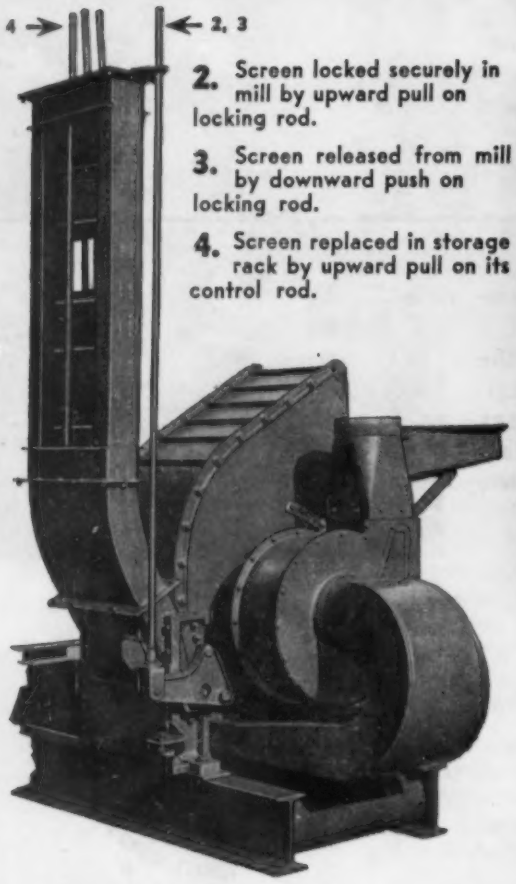

2. Screen locked securely in mill by upward pull on locking rod.

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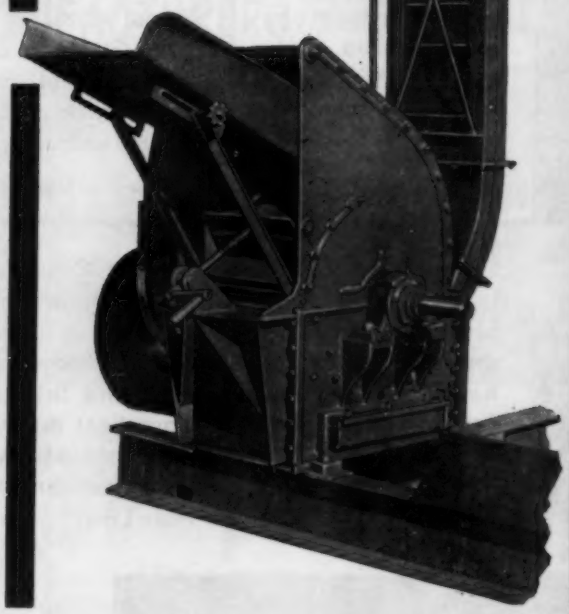
4. Screen replaced in storage rack by upward pull on its control rod.



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George A. Spencer Retires from Oakes

TIPTON, IND.—George A. Spencer recently retired as vice president and manager of the Oakes Manufacturing Co. at Tipton, after 33 years of continuous service with the firm.

George A. Spencer

Beginning his career with Oakes in 1926 as general manager, Mr. Spencer became secretary and sales manager four years later when the company was reorganized under new ownership. Early in 1952 Oakes became a subsidiary of Food Machinery & Chemical Corp., and he became vice president and manager of the newly-acquired subsidiary.

The former responsibilities held by Mr. Spencer in the Oakes organization will be assumed by Davis Piper, who has been his administrative assistant since 1957.

"Gooch's know-how and dependable fast service helped me get set up in bulk feeds . . . and I still sell a lot of Gooch's bag feed."

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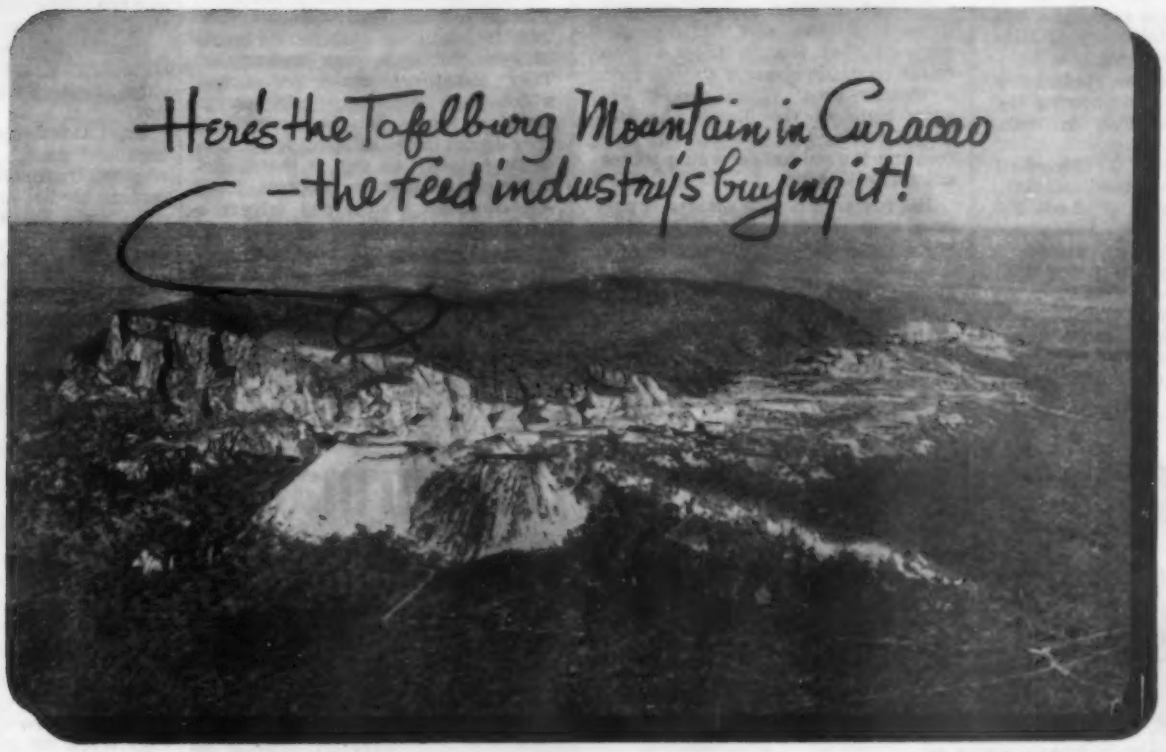

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Minnesota Researcher Reports Findings in Shipping Fever Study

ST. PAUL, MINN.—Most beef animals trucked or sent by rail more than a few hundred miles actually get shipping fever, but only 10 or 20% show the obvious symptoms and need treatment, a University of Minnesota researcher reports.

Dr. Dale K. Sorenson, veterinary scientist, said those not showing the symptoms have the fever in "subclinical" form.

A recent study of 31 Hereford steers shipped from Aberdeen, S.D., to St. Paul, a distance of about 280 miles, showed that 25 actually got the disease, but only six developed cases severe enough to be noticed and treated.

Dr. Sorenson explains that the condition is an infection in the upper respiratory system, similar to a common cold. Besides runny noses, symptoms include high temperature, coughing, general sluggishness and failure to eat.

In severe cases, untreated animals may develop pneumonia or other complications and can even die. The disease can also become chronic, resulting in poor growth and loss of profit.

Several antibiotics are effective, if used in time, and Dr. Sorenson suggests that feeders keep a close watch on cattle recently shipped from a distant area. When and if any show signs of the disease, he suggests calling a veterinarian and treating the animal according to recommendations.

His research on the disease is part of a joint research project involving several colleges and universities.

One finding he has made is that animals shipped from the first loading point to the final destination without any stops in between are less apt to be bothered by the disease. More frequent stops, and more time at each stopping point, make the disease worse, he said.

Tranquilizers have been studied as a preventive, but Dr. Sorenson says they need more evaluation before they can be finally recommended.

The central question in the research is the cause of the disease. Evidence so far points to a virus.

Study of the "pasturella" organisms found in the respiratory tracts of most cattle is also under way. They sometimes cause pneumonia, which is a secondary infection in shipping fever. Dr. Sorenson said they do not cause shipping fever. One current theory, he said, is that something else causes the shipping fever —a condition which may trigger a pasturella infection.

He said it is possible that, in addition to the virus, some stress, such as exposure and fatigue from shipping, is necessary to make the animal susceptible to the secondary pasturella infection which then results in a severe case of shipping fever.

Iowa Scientists Study Swine Ration Additives

AMES, IOWA—The influence of various additives—arsenicals, antibiotics, antifungals and unidentified growth factors—on swine rations is being studied at the Iowa Agricultural Experiment Station by Dr. Damon V. Catron, swine nutritionist.

Results of the work so far have been summarized in Iowa Farm Science, Iowa State College publication.

Dr. Catron reports that arsenicals improved growth rate and feed conversion, particularly under alfalfa pasture or dirt drylot conditions. Results were variable in experiments with antibiotics, and the variability appeared to be related to the disease level of the surroundings and the previous treatment of the pigs. Pigs fed high levels of antibiotics (up to 50 lb.) and maintained in clean surroundings thereafter gave little or no response to antibiotics. Pigs that did not receive antibiotics during the starter period or were kept on the sows to five weeks of age responded to antibiotic treatment during the growing period.

The value of unidentified growth factors occurring in corn steep water, enteric growth factor (E.G.F.) and in molasses fermentation solubles also was studied. Of these, only molasses fermentation solubles improved feed conversion.

Energy Levels

In another experiment, nutritionists studied the effect of dietary energy levels on gains, feed conversion and response to methionine supplementation of a corn-soybean oilmeal ration. Stepping up the diet's energy level by addition of 9% fat, as compared with 1% fat, improved feed conversion but had no effect on rate of gain. The addition of methionine to the ration at either level of energy did not influence gains or feed conversion.

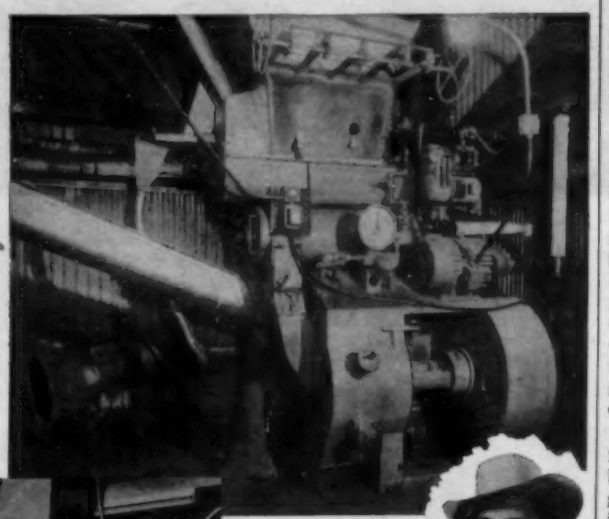
Future experiments will study the factors affecting the response to antibiotics, arsenicals and unidentified growth factors. Nutritionists will also intensify the study of factors affecting carcass quality.

Other workers in these studies include Prof. V. W. Hays; Dr. V. C. Speer; Prof. C. C. Culbertson, and L. E. Johnson

New Plant Dedicated

AURORA, ONTARIO—A new manufacturing plant which has nearly 160,000 sq. ft. of manufacturing, warehouse and office space was dedicated here by Sterling Drug Manufacturing, Ltd., with a ceremony attended by government officials and representatives of drug and other industries. The dedication program was followed by a tour of the new plant and a reception. One of the Sterling units, Sterwin Chemicals, Ltd., manufactures bulk vitamins and mineral enrichment products for the milling, baking and animal feed industries.

Proving the Versatility and Performance of Wenger Multi-Duty PELLET MILLS



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Mr. Ray Steel, Vice Pres. Indianola Operations, Honeggers', Inc. Indianola, Iowa

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Mr. Jenkins says: "We are obtaining optimum quality control in blending liquids in our Wenger Multi-Duty Pellet Mill with excellent tonnage and a minimum of fines."

Mr. Wendell S. Haley, Manager Ashland Cooperative Exchange Ashland, Kansas

Ashland is using a new Wenger 50 HP Multi-Duty Pellet Mill to make Hard Pellets and Hi-Molasses Pellets as well as molasses meal feeds.

Mr. Haley states that, "In my opinion the Multi-Duty is tops in performance and the Wenger Company is tops in service and 'follow thru'."

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Ken Gregerson Ivan Willroth

Kent Feeds Announces Sales Appointments

MUSCATINE, IOWA—Kent Feeds, Inc., Muscatine, has promoted Ken Gregerson to district sales manager, and appointed Ivan Willroth and Elvin Moore to the staff.

Elvin Moore

Mr. Gregerson joined Kent Feeds in June, 1957, and was appointed office sales representative at the Sioux City, Iowa, plant in December, 1957. In his new job he will supervise sales in South Dakota, southwestern Minnesota and one territory in Northwest Iowa. He will also continue to handle sales administrative duties in the division office.

Mr. Willroth, a turkey specialist, has been assigned to the northern Iowa territory, and will work with Kenny Appleby, turkey sales supervisor for that area. He formerly was with a turkey hatchery in South Dakota, and worked as a turkey specialist in central Illinois.

Mr. Moore, formerly manager of a produce station at Wesley, Iowa, will work at the Kent Feeds home office as a poultry specialist.

North Dakota Awarded Enzyme Study Grant

FARGO, N.D.—A $2,000 grant for work with enzymes in animal nutrition has been given to the animal husbandry department of the North Dakota Agricultural Experiment Station by Merck & Co., Rahway, N.J.

College officials said the grant will be used as partial support of a project to study the effect of different enzymes or combinations of enzymes with North Dakota grown feeds fed to meat producing animals commonly raised in the state.

Pilot work is now underway with beef animals in an effort to find whether enzyme additions might be profitable for North Dakota's ranchers and farmers.

Combinations showing the most promise will be expanded and further explored when the cattle sections of the new animal nutrition center of the experiment station are ready for use and the first lots of cattle are ready to go on feed, which will be some time this fall.

Nutrition work with swine is already underway in the new facilities and work with sheep will be moved to the new location and expanded some time during the summer.

The new nutrition center contains in one area complete feed storage, preparation and mixing areas and equipment, office and laboratory space, and controlled feeding pens and facilities for beef cattle, sheep and swine.

Animal Nutrition and Feed Production Consultant

C. W. SIEVERT

Room 855—141 W. Jackson Blvd.
Phone Webster 9-3256 Chicago 4, Ill.

Mice Used to Simulate Beef Cattle in Project

FORT COLLINS, COLO. — Livestock breeders at Colorado State University are using a colony of mice to simulate a beef cattle herd in a new basic research program.

The mice will be used in genetic studies in an attempt to uncover the biological relationships between rate of gain and the number of pounds of feed per pound of gain.

Dr. Tom Sutherland, assistant animal husbandman, Colorado Agricultural Experiment Station, said much emphasis in performance testing in beef cattle breeding has been placed on rate of gain, and to some extent on type. Little consideration has been given to mature animal size and efficiency of feed conversion, he said.

Researchers plan to raise between 100 and 200 litters of mice from each generation. Three to four generations can be raised each year. Basic breeding information can be developed 12 times faster than the same program carried on in a beef herd.

Each generation of mice will be fed out during a period comparable to the normal beef fattening and growth curve. Researchers will measure feed consumption, rate of gain and per cent of body fat.

Breeding stock will be selected from each generation, and after several generations it will be possible to determine what changes might be expected with a similar breeding program in a beef cattle herd.

North Carolina Heads For Record Tonnage

RALEIGH, N.C.—North Carolina is virtually assured of a record feed tonnage in 1958-59, state department of agriculture reports show.

By the end of April—10 months of the current fiscal year—its total was 1,300,154, only 70,000 tons short of the entire 1957-58 tonnage.

Every month of the current fiscal year has shown a substantial increase over the same month of the preceding period. In recent months, however, the percentage of increase per month has not been as great as it was last summer and fall.

April tonnage was 138,666, compared with 129,767 the same month in 1958.

Caged Layer Program

GREEN FOREST, ARK. — A new caged layer program to produce eggs for the graded market has been established in this area by Farmers Mill & Supply Co., Green Forest.

Rex Villines, owner of the feed outlet, said his firm is now furnishing feed for 13,300 layers. He owns 7,000 of the birds outright, and the others are divided among three other poultrymen.

The hens are maintained under the colony plan, with seven layers to each cage. The feed mill serves as a central point for gathering and shipping of the eggs.

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Herds Tested	Quarters Tested	Clear	Quarters Tested	Clear	Infd.	Percent Cleared
A.	32	21	11	28	28	0	100%
B.	95	76	19	112	108	4	79%
C.	80	34	46	68	55	13	72%
D.	68	52	16	68	64	4	78%
E.	74	38	36	79	72	7	81%
F.	83	69	14	78	76	2	85%
G.	60	34	26	44	39	5	81%
H.	36	27	9	28	26	2	77%
I.	16	11	5	16	15	1	80%
J.	32	16	16	28	25	3	81%
K.	48	41	7	60	59	1	86%
	624	419	205	609	567	42	79.5%

INDICATION OF SEVERITY OF INFECTION

Degree	1st Test	2nd Test
Slight	94	30
Infected (Mastitis)	66	9
Chronic (Mastitis)	45	3
Total	205	42

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IBM Computers Help Dairymen Manage Herds

AMES, IOWA — Dairy Herd Improvement Assn. records, processed at Iowa State College and fed to an electronic computer, are telling midwestern farmers how to feed and manage their dairy cows for greatest efficiency.

A national program in cooperation with the U.S. Department of Agriculture has introduced the central processing of dairy production records into 35 states. Three large centers handle the data on a complete basis for most of these states. Other states have worked out variations of this pattern and process the information through smaller agencies in their areas.

Among the large centers, Iowa State College presently is handling records from Iowa, Minnesota, South Dakota, Missouri and North Dakota. Several other states are expected to begin using the Iowa State processing center shortly. Cornell University is handling northeastern states, and North Carolina State College is serving the southeastern states.

History of Operation

The Iowa operation began with a trial herd during the winter of 1957-58. First training course for fieldmen who compile data was in January, 1958, and that same month 21 herds were placed in central processing. As of mid-April this year, 802 herds, involving 24,396 cows, were using the service at Iowa State. It is expected that this figure will double before the end of the year. The majority of herds were from Iowa, with Minnesota second in numbers.

Large computing centers are being used because the system operates most efficiently on a large volume of data. The work at Iowa State is done on an IBM 650. Dairymen themselves pay for the service. Cost of machine calculation is 10¢ per cow per month.

Types of Answers

Among the dozens of items which the machine calculates for the dairyman who uses central processing are the sources of feed nutrients being fed and the amount of concentrates needed. It also reminds the herd operator when to breed a cow and when it will freshen. It compares individual cows with herd averages, indicating which animals are profitable and which are "loafers." It compiles butterfat records and all other records much more accurately. It shows feed cost per 100 lb. of milk, milk production per worker, return above feed cost per worker and milk per acre.

The highly detailed sheets which provide this information and much more are calculated in about 1½ min. for the average herd. Prof. Floyd Arnold, extension dairyman at the college, said dairymen who are using the new system have been almost unanimous in their approval of it.

$1,000 Ad Scholarship

MILWAUKEE, WIS.—John Heiser, 22-year-old native of Winnetka, Ill., is the fourth annual recipient of the Klau-Van Pietersom-Dunlap, Inc., $1,000 scholarship award given annually to an Iowa State University junior class student interested in agricultural advertising.

Alan R. McGinnis, board chairman, said Mr. Heiser would spend three months at the agency this summer studying all phases of copywriting, client contact, merchandising, promotion and research.

The 1958 KVPD award winner, Cecil Hunt, has joined KVPD's agricultural division, according to Mr. McGinnis. Mr. Hunt spent three months at the agency last year during his interneship.

Age of Turkey Affects Response to Lighting

BLACKSBURG, VA.—The age of a turkey hen when artificial lighting is used has a lot to do with how well the hen will respond to the artificial lighting, according to the conclusion reached by scientists at the Virginia Agricultural Experiment Station.

The scientists explained that artificial illumination of turkey breeding hens is a common practice. Lighting stimulates early egg production and increases the total number of eggs laid, thereby reducing the cost of producing poults. However, until the Virginia study, data concerning the effect of age at lighting on the reproductive performance of turkey hens were lacking.

In the study, the scientists measured the effects of age at lighting on the number of days until the first egg, number of eggs laid and rate of production. They used 239 broad breasted bronze and 247 large white turkeys. They concluded that when the cost of maintenance to older ages was considered, 29-30 weeks was the best age for artificial lighting of turkey hens to get the most efficient egg production.

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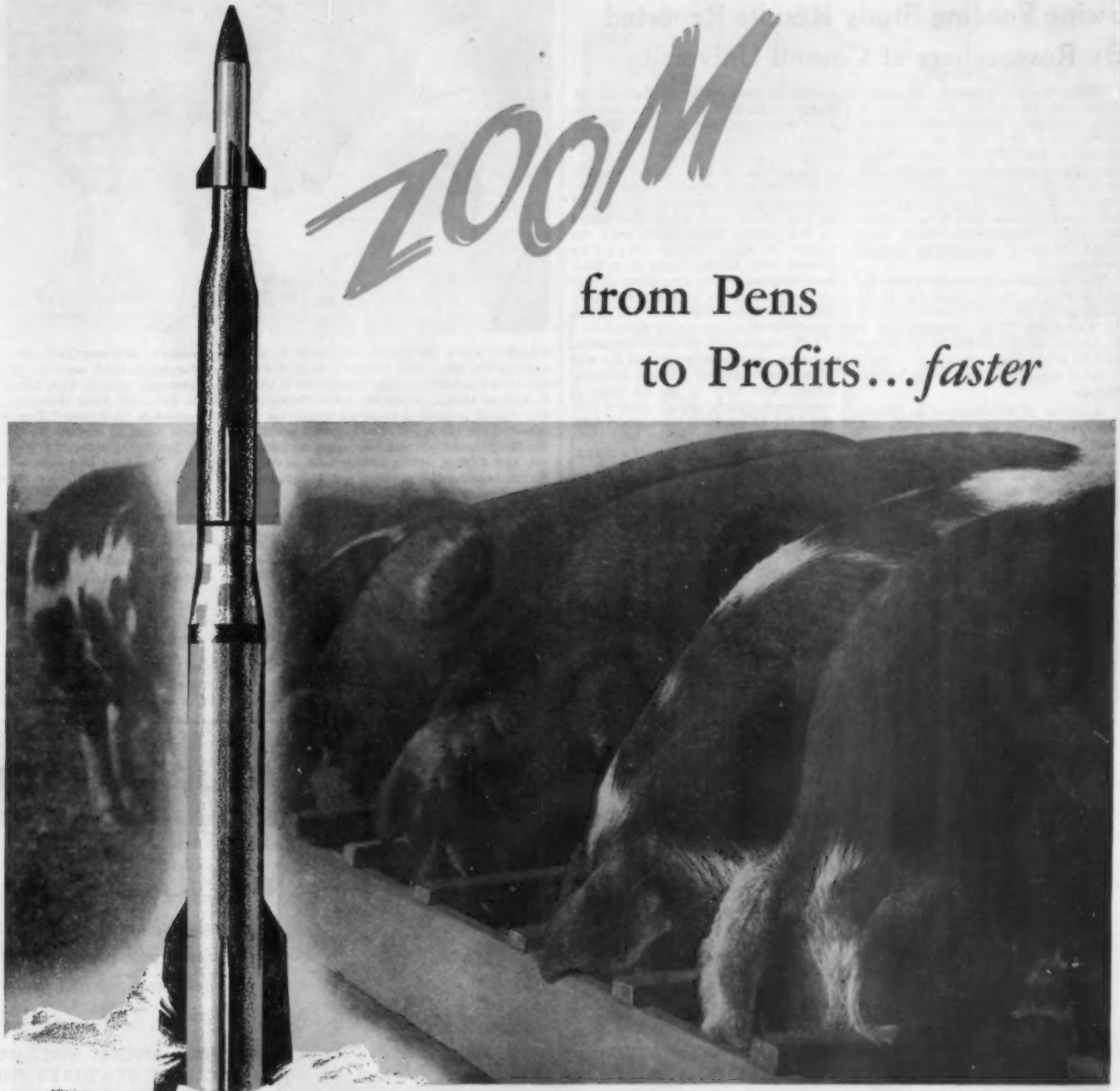

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Swine Feeding Study Results Reported By Researchers at Cornell University

ITHACA, N.Y.—Results of recent swine experiments on the effects of fats, vitamins, protein and energy levels, fiber level and various compounds on feed efficiency, digestibility and other performance aspects plus work on iron administration for prevention of anemia in baby pigs were reported by researchers in the animal husbandry department, New York State College of Agriculture, Cornell University.

The reports were made from the work of: Dr. W. G. Pond, Dr. G. H. Wellington, Dr. J. R. Stouffer, Dr. R. H. Foote, Dr. R. W. Bratton, Dr. J. K. Loosli, R. S. Lowrey, J. H. Maner and D. C. Young

Brief reports of the swine studies follow:

Addition of B-Vitamins to Practical-Type Ration for Growing-Fattening Swine—Addition of a B-vitamin supplement to a practical-type ration for young pigs resulted in a significant increase in growth rate over the basal.

B vitamins supplied by alfalfa meal in previous work apparently were sufficient to prevent any growth response from a commercial vitamin supplement, but observations made in this trial emphasize the importance of supplying an adequate source of B vitamins for optimum performance of pigs fed typical rations composed of natural feedstuffs without alfalfa meal.

Effect of Beef Tallow and Sulfonylurea Compounds in Rations for Swine on Growth Rate, Feed Intake, Feed Efficiency and Carcass Quality—No significant differences were obtained among lots in rate of gain.

There was a 14% lower average daily feed consumption and a 14% reduction in feed required per pound of gain when beef tallow was added to the ration. Researchers said the failure of added fat to improve growth rate in this study may have been related to the fact that no upward adjustments were made in protein and vitamin content of the ration upon the addition of beef tallow.

Differences in backfat thickness between pigs receiving added fat and those not receiving it were striking. About 70% (22) of the 32 hogs in the four no-tallow groups graded U.S. No. 1 (1-1.6 in. back fat), while 60% (15) of the 25 hogs in the four 10%-tallow groups graded U.S. No. 2 (1.6-1.8 in. back fat).

This effect of added fat in the ration on deposition of back fat may be related to the level of protein in the ration, according to supervisors of the test work.

No effects of sulfonylurea compounds on feed consumption or feed efficiency were obtained in these studies.

Effect of Calorie-Protein Ratio on Ration Digestibility, Feed Efficiency and Weight Gain in Growing Swine—It was noted that pigs receiving 19% protein plus 10% tallow gained the fastest with the least feed per pound gain, while those receiving 13% protein plus 10% tallow gained at the slowest rate.

"While differences among lots in average daily gain were not statistically significant, there is an indication that an interaction between ration protein and energy exists in pigs of this size," commented Cornell University researchers. "It is noteworthy that average daily protein intake and average daily gain seemed to be directly related. The average daily feed consumption of pigs receiving 10% tallow was reduced when the protein content was 13 or 16%, but not when 19% protein was supplied."

Digestibility determinations revealed a significant effect of protein level and of added fat on ration pro-

PRODUCTION SCHOOL—Maxwell L. Cooley (center), Hoffman-Taff, Inc., Springfield, Mo., was recently named chairman for specialized sessions for the 1959 Feed Production School. He is shown in a planning session with Lloyd S. Larson (left), president, Feed Production School, Inc., and John Wessman, director of activities. Over-all theme for the 1959 school is "pelleting." Topics selected for the specialized sessions portion to be held Sept. 25 include liquids handling, handling and conveying of pellets, quality control, pre-mixing, cooling and drying, and grinding and mixing roughages. Speakers and panelists for the specialized sessions will be drawn from the men active in the production of feeds.

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Designed for thorough mixing, this unit will handle 5000 lbs. of average materials.

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This GMC unit retains compactness of Chrysler LP Gas unit. Equipped with Rockford Clutch and POLY V DRIVE, it drives mill at 2800 RPM. Front end of engine drives hydraulic system and, through Conway Clutch and gearbox, the mixer. GMC equipped unit shown on opposite page.

★ **Large, Open Throat, 24" Hammermill**
Large open throat hammermill (right) is designed for all types of roughage . . . including silo filling of soft corn as well as all grains. Rugged ¼-inch boiler plate construction. 1100 sq. inch screen area. Full width magnet.

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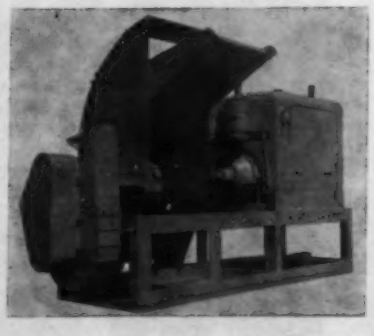

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tein, ether extract (fat) and crude fiber digestibility. Further work is now underway in an attempt to determine whether this unexpected observation of added fat improving apparent protein digestibility is a real effect or whether there exists some analytical error associated with chromic oxide determination in the presence of a high level of fat.

Effect of Protein and Energy Levels on Growth Rate, Feed Efficiency and Ration Digestibility of Young Boars—Extreme differences in average daily gain and efficiency of feed utilization among treatments were noted in this study. Statistical analysis of the growth and feed data revealed highly significant differences in both rate of gain and feed per pound of gain. It was reported that the difference in rate of gain was due to protein level, while feed efficiency showed a highly significant protein effect and a significant protein-fat interaction.

Apparently, said Cornell workers, the daily feed consumption of boars receiving 10% protein plus 10% fat was reduced to the extent that insufficent nutrients other than energy were ingested for optimum growth and feed efficiency. It is interesting to note the high feed efficiency of boars receiving 18% protein plus 10% fat and the lack of serious increase in back fat thickness at 200 lb.

There was an increase in protein digestibility in the presence of added fat at both the 10 and 18% protein levels.

It is evident from this work that 10% protein is insufficient for normal growth of young boars and that added fat in combination with low protein aggravates the deficiency.

Iron Administration for Prevention of Anemia in Baby Pigs—Daily spraying of the sow's udder with a solution of ferrous sulfate was found in this test to be a satisfactory means of promoting normal growth rate, hemoglobin and hematocrit.

A comparison of one iron injection with two indicated that improved performance and a somewhat more satisfactory blood picture was obtained by giving a second injection at 10 days of age. "It is questionable whether this would be economically worthwhile at present prices of injectable iron compounds," said researchers.

From the standpoint of sustained maximum performance and resistance to disease, it was noted that two injections of iron (200 mg.) may be advisable when pigs are raised on concrete.

The study also included the administration of oral tablets containing iron, copper and cobalt. On several occasions, tablets were found on the floor of the pen after administration, indicating that some pigs had coughed them up. "This is an important practical consideration in addition to the fact that absorption from the intestinal tract may be inferior," observed the investigators.

Effect of Fiber Level on the Growth Rate, Feed Efficiency, Back Fat Thickness and Ration Digestibility of Pigs Fed Two Levels of Protein—Animals receiving the low energy ration grew at a somewhat lower rate initially. However, in the over-all results there were only small differ-

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DORSEY CONVENTION—Bulkmaster distributors and salesmen from 15 states were among the more than 400 people who attended the recent annual distributor convention sponsored by Dorsey Trailers at Pensacola, Fla. Shown are several distributors and Dorsey executives who attended. They are (left to right): Bruce Walsh, regional sales manager; Ray Purrier, Springfield, Mo.; Carl Shipley, Ft. Smith, Ark.; Ralph Agee, Jackson, Miss.; Leon Posey, Atlanta, Ga.; Maurice White and Lewis Abercrombie, Birmingham, Ala.; George Ford, Bulkmaster sales manager; Ed Linn, Atlanta, Ga.; Bill Manning, Louisville, Ky., and Ken Rohm, regional sales manager. Four new Dorsey Bulkmasters were among 14 new models shown at the convention. The new units shown were a twin-screw unloading model, an air unloading model, a bulk material transport and a bulk cement transport. Horton Fick, vice president in charge of sales, presided.

ences in growth rate resulting from the two energy levels.

This same type of result was observed for the differences in growth rate of animals on two protein levels. Early growth rate of the group on 10% protein was significantly lower than those in the high protein (18%) group, but after the animals attained a weight of approximately 120-130 lb. the growth curves of the two groups appeared to cross so that animals on the low protein rations grew faster than the group on the high protein ration.

Average back fat thickness appeared to decrease as the fiber level was increased. This was very evident in animals receiving the 18% ration.

Although the low-energy rations contained a greater per cent crude fiber than is currently recommended in practical swine rations, growth rate under conditions of this experiment was not adversely affected by high levels of fiber while the back fat thickness was reduced.

Effect of Proteolytic Enzyme Supplementation of Soya-Protein Simulated-Milk Diets for Baby Pigs—From average performance data it was seen that there was no difference in weight gain due to proteolytic enzyme supplementation. However, pigs on the casein diet gained faster than pigs on soya-protein diet, this difference being significant at the 1% level of probability.

Four-times-a-day oral administration of the gelatinous capsules containing the enzyme to animals on this treatment appeared to irritate their throats and tended to reduce their weight gain for the period.

Feed efficiency data show that casein was more efficient in producing weight gains than soya-protein, with or without enzyme supplementation. Again, there was no difference in feed efficiency due to enzyme supplementation, however it was noted that animals given pepsin by capsule required more feed per pound of gain when compared to other treatments.

Digestibility data indicated a difference between the per cent apparent digestibility of ration protein by animals receiving casein and those receiving soya-protein. There appeared to be no real difference in apparent digestibility of the soya-protein diets due to enzyme supplementation.

Grain Mill Wage Trend Told for California

SAN FRANCISCO—Average weekly earnings of factory and mill workers producing grain mill products in California dropped during April to $99.39 from $101.35 in the previous month, reports the division of labor statistics and research, California State Department of Industrial Relations. But earnings were up from $94.60 during April of 1958.

Hourly earnings of these workers showed the same trend—down from $2.46 in March to $2.43 in April, but up from $2.33 the previous April. The length of the average work week changed only fractionally—41.2 hours in March and 40 hours last April, compared to 40.6 hours during April, 1958.

Aeration Installations Show Further Growth

BOONE, IOWA—The list of grain firms with aeration facilities is growing steadily, reports from aeration equipment manufacturing firms indicate.

Rolfes Grain Aeration & Electronics Corp., Boone, has announced 148 recent installations in 20 states. The states and the number of installations made in each by the Iowa firm are as follows: Kansas, 41; Iowa, 25; Illinois, 23; Nebraska, 8; Texas, 8; Ohio, 6; Oklahoma, 6; Colorado, 4; North Dakota, 4; Missouri, 4; Minnesota 3; Michigan, 3; South Dakota, 3; New York, 2; Pennsylvania, 2; Virginia, 2; Arizona, 1; Arkansas, 1; Oregon, 1, and Hawaii, 1.

BUILDS STORAGE ANNEX

FARNHAMVILLE, IOWA — Work has started on the construction of a 400,000-bu. annex to the Farnhamville Cooperative plant here. Work is to be completed by July 15. The annex is of slipform design with 13 tanks. It will join the present concrete elevator by a 35-ft. bridge and tunnel.

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The difference between analytical reagent (non-hydrated) and USP (hydrated) grades of dicalcium phosphate clearly illustrates this point.

Both have been used in the past to determine phosphorus requirements. Yet research shows there is a great difference in the availabilities of these two products for different animals. The phosphorus requirement based on the reagent grade will be much higher for both chicks and turkeys.

For example, Beltsville White Turkey poults on a purified diet receiving .55%P of analytical reagent grade of dicalcium phosphate made poor gains and suffered 100% mortality at 3 weeks. Meanwhile, poults receiving the purified diet with .55% of USP grade dicalcium phosphate made an average weight gain of 268.9 grams at 3 weeks, with 100% livability.

This work shows that feeding recommendations based on the reagent grade of dicalcium phosphate . . . and other phosphate products of low availability . . . may be much higher than actually needed.

Even more important, the proven high availability of International's Dynamic DYNAFOS, a chemically processed dicalcium phosphate, makes many old recommendations out-of-date . . . and wasteful.

Dynamic DYNAFOS meets nutritional needs with fewer pounds of product

Dynamic DYNAFOS has been developed specifically for the feed industry. Proven high biological availability and low calcium content mean you can count on each pound of Dynamic DYNAFOS to deliver much more usable phosphorus.

Exacting quality and biological control tests enable International scientists to further improve the superior performance of Dynamic DYNAFOS.

And because you need less Dynamic DYNAFOS, you actually cut formulation costs. Unique beaded form makes handling and mixing better than ever.

Write or wire your International representative for details.

MINERALS International CHEMICALS

"Creators of Living Minerals"

FEED INGREDIENTS DEPARTMENT, PHOSPHATE DIVISION

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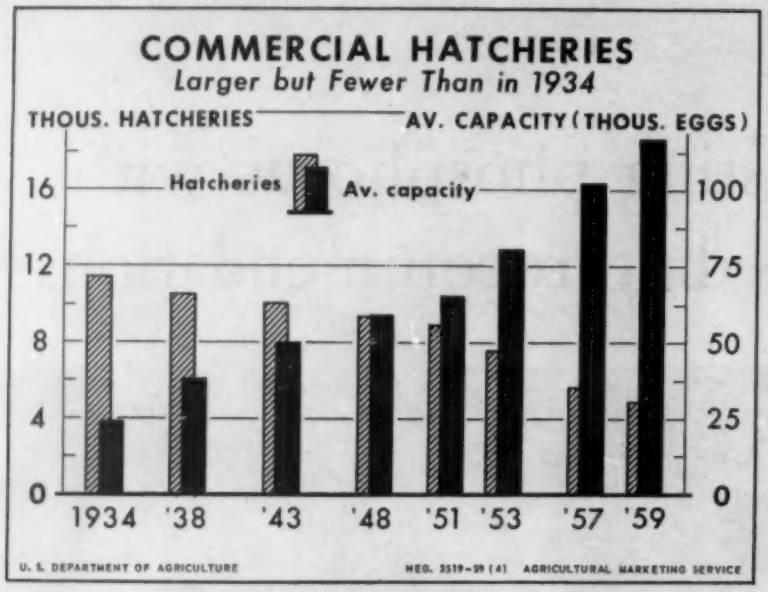
5-59



U.S. Hatcheries Decline in Number, Increase in Size

WASHINGTON—Commercial U. S. hatcheries continued to decline in number and increase in size during the past two years. Total capacity, meanwhile, showed only a slight decline, the U.S. Department of Agriculture reports.

USDA's latest survey, which reports totals for Jan. 1, 1959, shows 4,939 hatcheries in the U.S., compared with about 5,800 in 1957, 8,200 in 1953 and 11,400 in 1934. (See chart.)

And total capacity, even though it is down slightly from 1957, is 587 million eggs. The USDA report said this imposes essentially no limit on the size of the poultry industry because annual capacity is still considerably more than the 1958 hatchings of 2.5 billion chicks and poults.

"The net decline in the number of operating hatcheries is the result of partially offsetting trends among hatcheries specializing in egg-type and broiler-type chicks," the report said. "Although the current hatchery survey is not designed to separate chick hatcheries into such categories, trade reports indicate that small hatcheries, operating seasonally for the production of egg-type chicks, are disappearing. Many of the remaining small hatcheries have aligned themselves, through franchises, with large-scale breeders who distribute foundation stock on a national basis."

Local Sales Insufficient

Among the reasons for this development, the report said, is the difficulty of recouping the full costs of a high-quality breeding program through sales from a local outlet alone.

In the broiler field, meanwhile, the report said, a relatively small number of foundation breeders have a prominent place in the industry. They distribute eggs and chicks, nationwide, to populate the multiplier flocks maintained by hatcheries specializing in the production of broiler chicks.

As the broiler industry grows, the average capacity of these broiler hatcheries also grows, and some new ones are opening. From 1957 to 1959, three states showed net increases in their number of hatcheries. Two of these — Georgia and Alabama — are deep in the broiler belt. The third, Vermont, showed an increase of a single hatchery.

Broiler Hatchery Advantage

The report said hatcheries whose business is principally in broiler chicks have a great advantage over egg-type producers in the sense that broiler chick demand continues the year around, while the demand for replacement stock remains highly seasonal despite the trend to spread it over the year. In 1958, for example, three fifths of the egg-type hatchings were in the three months of March-May.

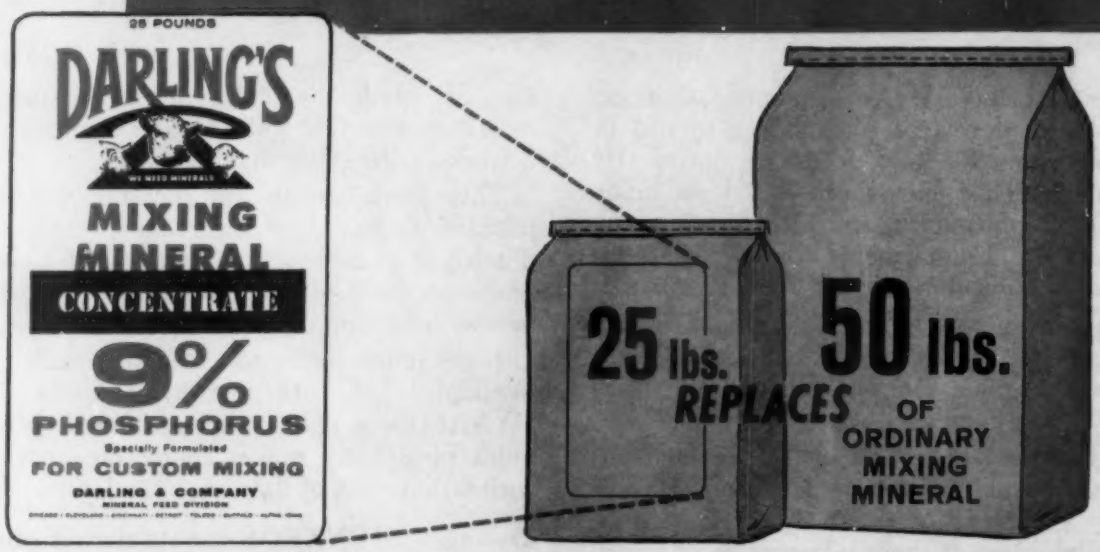
Seasonal springtime demand for chicks means that incubators stand idle the remainder of the year, running up hatchery costs. It also means that only part of the egg production of the breeding stock can be used effectively for propagation.

Therefore, costs must be recovered on a part-year operation, whereas broiler operations are spread more evenly through the year.

The report points out that chick hatcheries in the broiler areas had much more efficient use of capacity than hatcheries elsewhere. In the two years between the two most recent hatchery surveys, average utilization of egg setting capacity increased noticeably.

Similar ratios for turkey hatcheries show an even wider range of ratios of capacity to output. The New England and Middle Atlantic states, and also the east south central states, show fewer poults hatched in 1958 than the number of eggs that could have been set at one time. In contrast, some other regions used their capacity two or more times during the season.

NOW A MIXING MINERAL CONCENTRATE



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MORE PROFIT FOR YOU, THE DEALER

★ higher margin per ton
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★ saves *one-half* of your storage space and costs
★ small, compact 25 lb. bag for easier handling
★ store *twice* the supply handy to your mixer

A BETTER BUY FOR YOUR CUSTOMER

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★ includes all necessary trace minerals
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FEEDSTUFFS WANT ADS

Dr. Salsbury's Laboratories—

the Scientific Approach to Poultry Health Problems

Health products that give your feeds exclusive new profit benefits

Feed manufacturers and dealers alike are vitally interested in feed products that make a profit for the user. *Profit is the major test*, so far as the grower is concerned. A feed additive must bring about a higher net profit or it will be discarded. This brochure describes certain such products from Dr. Salsbury's Laboratories, where the practical side of research is of primary concern.

HERE ARE ANSWERS TO VITAL POULTRY AND SWINE HEALTH PROBLEMS

DETACH INSERT AND FILE

Millions of dollars will be lost by growers this

HERE'S HOW WORMS COST GROWERS A LOT OF MONEY

They damage birds

Internal parasites irritate the intestine, reducing its' operating efficiency. They may produce toxins tending to weaken the bird. Younger birds die when worms block the intestine. Serving as a constant stress factor, worms often set the stage for disease outbreaks.

They boost feed co...

Worms use feed which has already been digested by the bird, thus robbing it of essential nourishment. Of course, one worm has little appreciable effect but wormy flocks may have thousands of worms in all stages of development, causing poultry to waste feed.

They lower production

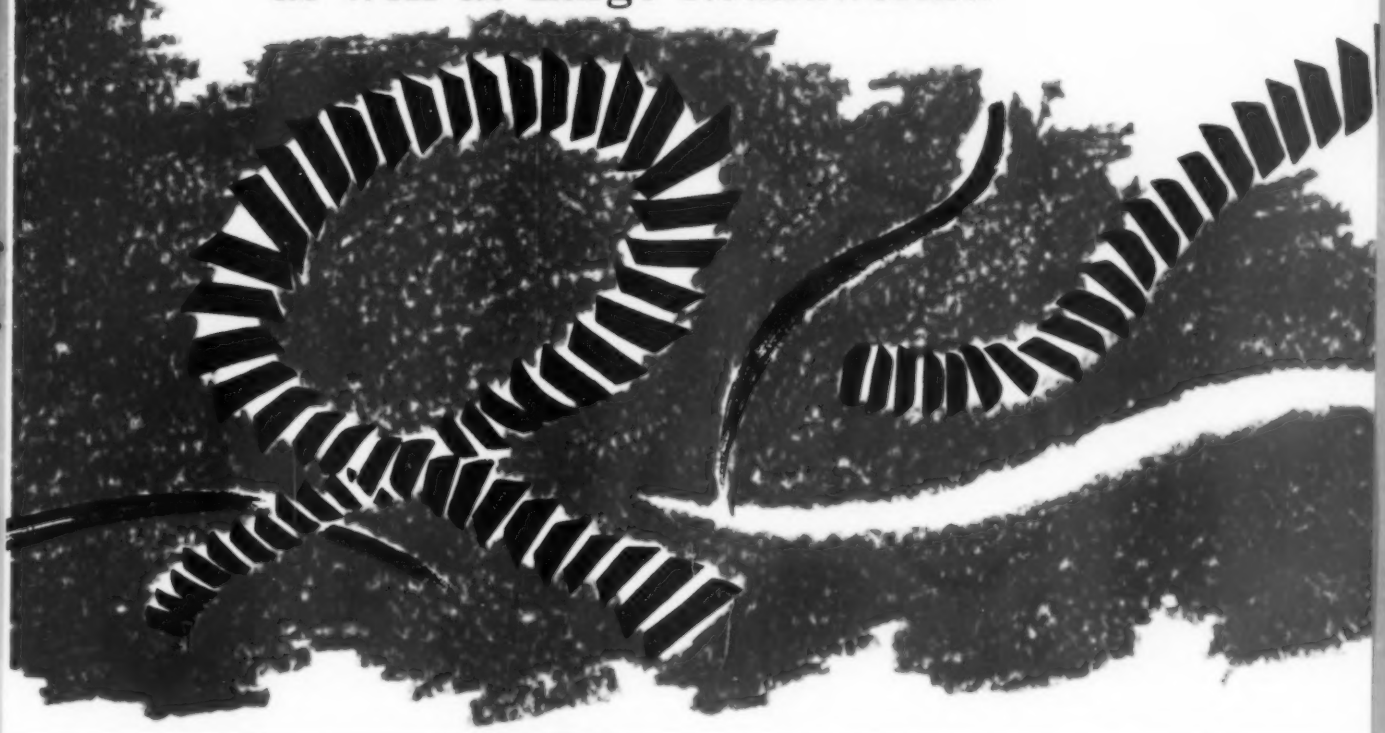
These unseen pests interfere with growth, impair development, delay maturity and reduce egg production. Growing pullets, poults, and broilers loaded down with worms seldom make profitable gains; even mild infections in laying flocks can cut production 30 dozen eggs per 100 hens per month.

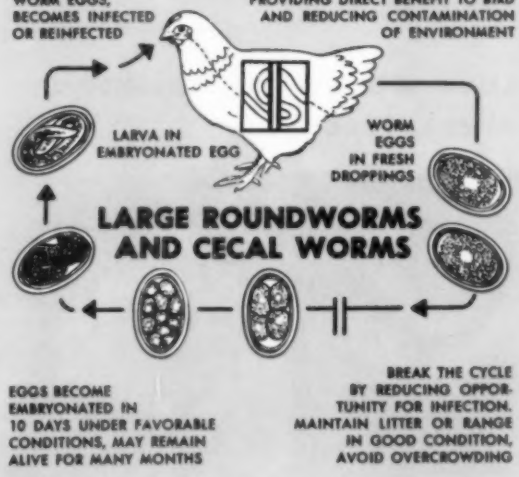
They multiply fast

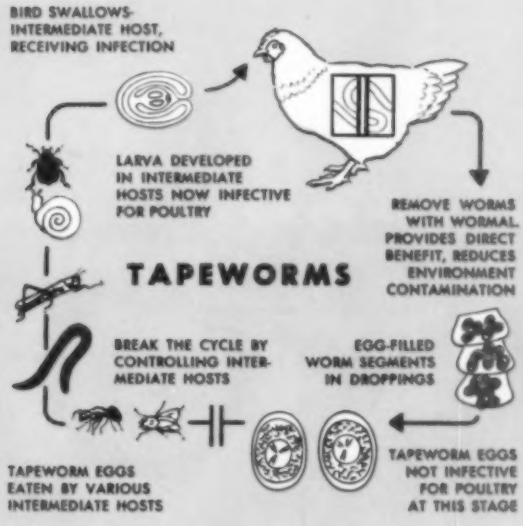
Three different types of worms cause damage of economic importance—*large roundworms, cecal worms* and *tapeworms.* Life-cycle diagrams on opposite page show the "inside story" of a worm's private life. What the diagrams do not show is the amazing rate at which worms multiply. For example, a female large roundworm lays 5,000 or more eggs daily—all of which pass off with the droppings to infect other birds and start the cycle all over again. This rate of reproduction is why the worm problem gets steadily worse in unprotected flocks.

year, due to many species of poultry worms

Stopping Roundworms is only a <u>small</u> start.
A complete worm control program requires a wormer that "<u>gets all 3</u>" – Tapeworms and Cecal Worms as well as Large Roundworms.




BIRD EATS INFECTIVE EMBRYONATED WORM EGGS, BECOMES INFECTED OR REINFECTED
BREAK THE CYCLE BY REMOVING WORMS WITH WORMAL PROVIDING DIRECT BENEFIT TO BIRD AND REDUCING CONTAMINATION OF ENVIRONMENT
LARVA IN EMBRYONATED EGG
WORM EGGS IN FRESH DROPPINGS
LARGE ROUNDWORMS AND CECAL WORMS
EGGS BECOME EMBRYONATED IN 10 DAYS UNDER FAVORABLE CONDITIONS, MAY REMAIN ALIVE FOR MANY MONTHS
BREAK THE CYCLE BY REDUCING OPPORTUNITY FOR INFECTION. MAINTAIN LITTER OR RANGE IN GOOD CONDITION, AVOID OVERCROWDING


BIRD SWALLOWS INTERMEDIATE HOST, RECEIVING INFECTION
LARVA DEVELOPED IN INTERMEDIATE HOSTS NOW INFECTIVE FOR POULTRY
REMOVE WORMS WITH WORMAL. PROVIDES DIRECT BENEFIT, REDUCES ENVIRONMENT CONTAMINATION
TAPEWORMS
BREAK THE CYCLE BY CONTROLLING INTERMEDIATE HOSTS
EGG-FILLED WORM SEGMENTS IN DROPPINGS
TAPEWORM EGGS EATEN BY VARIOUS INTERMEDIATE HOSTS
TAPEWORM EGGS NOT INFECTIVE FOR POULTRY AT THIS STAGE

AND HERE'S HOW TO CONTROL WORMS

DETACH INSERT AND FILE

Dr. Salsbury's

WORMAL

THE ONLY COMPLETE POULTRY WORMER

WORMAL takes the guesswork out of worming

Some worming treatment is necessary, because it is practically impossible to raise birds that are not heavily infected with worms. Unfortunately, no single drug is equally effective against all 3 major types of worms. And few growers are skilled at posting or diagnosis, so that the kind of worms might be incorrectly identified. Thus a grower runs the risk of wasting money by using the wrong worming compound. All this spells out the need for a broad-range wormer, one that gets *all 3 types of worms*. WORMAL is such a wormer. It is the *only* wormer that gets all 3—takes the guesswork out of worming!

Here's why growers prefer WORMAL granules

1 Wormal is the only feed additive wormer that removes large roundworms, cecal worms and 6 species of poultry tapeworms.

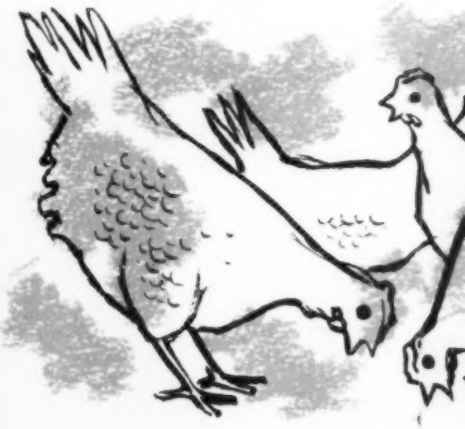
2 Easy to feed. Wormal fits most feeding programs—all mash, or controlled mash-and-grain.

3 Wormal is safe, causing no shock or setback.

4 Palatable. Feed mixtures containing Wormal are readily eaten by chickens and turkeys.

5 One standard dose for birds of all ages. One pound of Wormal treats 250 birds of any age. Mix at rate of 20 lbs. per ton of mash.

WORMAL . . . the most effective wormer for chickens, broilers, turkeys



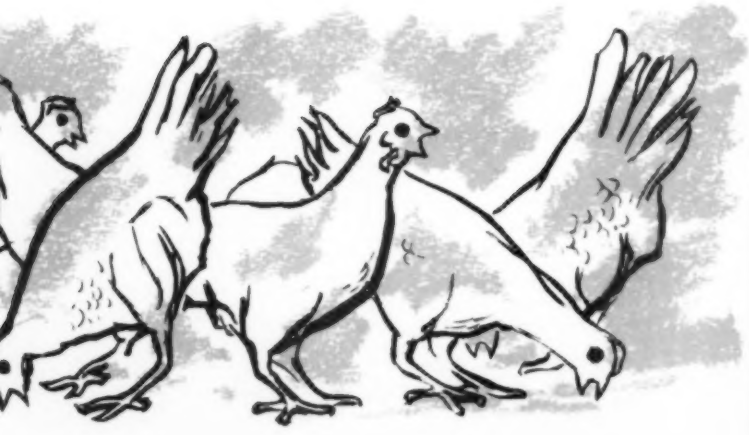
in your poultry feeds lets you offer your customers the utmost protection against costly worm damage

only WORMAL contains dibutyltin dilaurate, plus piperazine and phenothiazine

These three drugs combine to make the safest, most effective poultry anthelmintic known today. **Dibutyltin dilaurate,** a development of Dr. Salsbury's Laboratories, is available only in Wormal. It is the only flock tapewormer that removes 90% or more of the 6 commonest species of chicken tapeworms—*heads and all.*

Controlled tests show that piperazine removes 95% to 100% of large roundworms from chickens and turkeys. It works fast, is palatable, and does not interfere with normal feed consumption.

Phenothiazine, the third drug in Wormal, is one of the most widely used worming compounds known to veterinary science. It is also one of the most effective—removing 95% to 100% of cecal worms from poultry.



TREATMENT SUPPLEMENTS SANITATION

Commercial Flocks...

are usually raised on clean range, thus reducing the degree of infection. However, for best results, sanitation should be supplemented by a regular worming program—Wormal at 8, 12, 16 and 20 weeks for maximum worm control.

Utility Flocks...

often show a much higher worm infection than commercial birds because not enough attention is paid to clean range and other good management practices. Thus, there is an even greater need for a good worming program. After pullets are housed, Wormal should be used every 30 days if necessary.

Turkeys...

Worm infections in turkeys are on the increase, especially where poults are raised on the same range or litter year after year. Wormal Granules keeps worms under control when fed at the rate of one pound to 100 pounds of mash for each 250 birds. For growing birds, feed as the sole ration until consumed.

WRITE, WIRE OR PHONE

for more complete information on WORMAL. Or, if you wish, a Dr. Salsbury's technical service adviser will arrange to call and personally answer your questions about using WORMAL in your feeds.

DETACH INSERT AND FILE

These other Dr. SALSBURY'S products can give

UNISTAT®

PREVENTS COCCIDIOSIS BEST

for chicks, broilers, growing chickens

UNISTAT not only provides superior protection against coccidiosis—it also gives growers other important benefits, such as *better coloring*, *faster growth*, and *increased feed efficiency*. Of these, the last is most important. Birds must make top gains per pound of feed.

EFFICIENCY UP 10 POINTS

Thousands of flocks have demonstrated that UNISTAT-fed broilers need *less feed per unit of gain*. One grower (name on request), who raises a million broilers a year, says, "Our feed efficiency has improved more than 10 points over last year and we've had no trouble with coccidiosis. We feel that the coloring, finish, and quality of our birds has been greatly improved withUNISTAT and we're now using it 100%."

WRITE, WIRE OR PHONE

for Feed Manufacturer's Guides on 3-NITRO and/or UNISTAT. They answer many questions about the use of these products in your feed.

3-NITRO®

POWDER

THE ARSENICAL OF CHOICE

for chickens, turkeys, swine

Over half of the commercial broilers raised each year get 3-NITRO in their feed because its use is highly profitable. Certain experimental results have indicated an extra profit of $21.50 per 1,000 birds from the use of 3-NITRO. Laying flocks have averaged 12 extra eggs per hen per year and on ¼ lb. less feed per dozen eggs. 3-NITRO *promotes faster growth, improves feed-efficiency, increases egg production, reduces flock depletion, promotes better feathering* and *coloring*. These are reasons why growers say, "*No other feed ingredient does so much—and costs so little—as 3-NITRO.*"

LEANER HOGS

Today's consumer wants lean red meat, not wasty fat. Tests have shown that 3-NITRO reduces backfat and improves carcass leanness. 3-NITRO has long been known for its effect in producing faster, cheaper gains. This new benefit—leaner pork—is attracting even more farmers to 3-NITRO.

your feeds exclusive profit-making benefits

POLYSTAT®

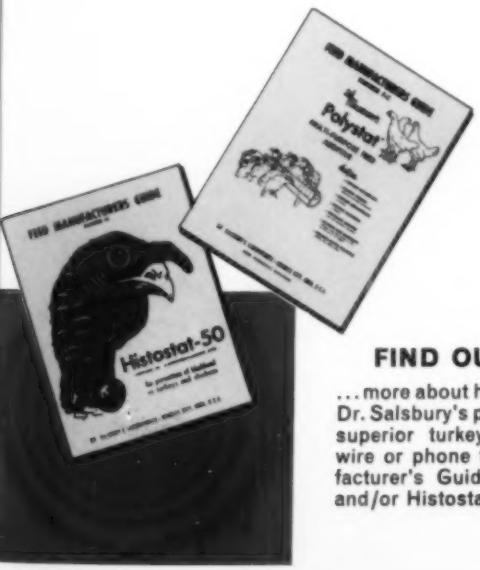
A BROAD-RANGE HEALTH PROTECTANT

for chickens and turkeys

POLYSTAT helps chicks and poults start faster . . . grow into stronger, healthier birds, the kind that *return highest profits*. There is less mortality, less sickness, and better all-around health and appearance, when feeds contain POLYSTAT. In addition, POLYSTAT eliminates the need for a separate coccidiostat, a separate wormer, and a separate growth stimulant. These are reasons why thousands of successful growers say there is no other product with the wide range of profit benefits supplied by POLYSTAT.

IF BLACKHEAD IS NO PROBLEM

. . . keep birds on POLYSTAT throughout the growing period. However, if protection against blackhead is required, a change to Histostat-50 should be made, as described at right.



FIND OUT NOW

. . . more about how to use these Dr. Salsbury's products to build superior turkey feeds. Write, wire or phone for Feed Manufacturer's Guides on Polystat and/or Histostat-50.

HISTOSTAT®-50

BEST FOR BLACKHEAD PREVENTION

also promotes finer finish

When poults go on range, feeds containing HISTOSTAT-50 will prevent losses from blackhead. HISTOSTAT-50 should be used earlier if blackhead has been causing trouble in brooder house. Its new, improved formulation permits the active ingredient to do its work more completely and effectively—especially as birds approach market age or maturity. Palatable—turkeys like it. It's economical—2 birds saved more than pays for treating 100 with HISTOSTAT-50. And they finish better, with higher market value.

CHAMPION TURKEYS RAISED ON HISTOSTAT

Year after year, the champion birds at carcass shows were raised on HISTOSTAT. It's been proved on millions of turkeys. And new HISTOSTAT-50 contains the same proven active ingredient—4-nitrophenylarsonic acid—from the chemical family of arsenicals, which are universally recognized for their growth-stimulating properties.

THESE FREE SERVICES ARE YOURS FOR THE ASKING

AUTHORITATIVE COUNSEL. Available to you is the counsel of more than a score of Dr. Salsbury's scientists in the fields of poultry and animal health, chemistry, microbiology, protozoology, and helminthology, working with the most modern equipment in one of the largest commercial poultry—and animal—health laboratories in the world. These experts are at your service for any advice you may need regarding feed medication.

PATHOLOGICAL SERVICE. Dr. Salsbury's Laboratories offer you the professional diagnostic opinion you may need for providing the proper medicated feeds to cope with unusual flock health problems.

TECHNICAL SERVICE ADVISERS. A group of trained specialists, experienced in feed medication, will come and confer with you. They bring the entire technical resources of Dr. Salsbury's Laboratories to your aid.

SERVICE TRAINING COURSE. Dr. Salsbury's Laboratories have over 25 years' experience in training dealers, field servicemen, and poultrymen in the essentials of poultry health. Short courses in poultry, broiler, and turkey subjects—taught by leading scientists and educators—can help your staff render a better service.

SCIENTIFIC INFORMATION SERVICE. An extensive series of Feed Manufacturer's Guides, bulletins, and reports of research covering practically every field of poultry health, will be sent to you regularly.

FIELD SERVICE. One-fourth of Dr. Salsbury's total staff—or about 100 men—are constantly in the field, providing service. These men have an average of 12 years' experience with the Laboratories. They know poultry, and they are always ready to assist you with feed medication.

During the many years they have [illegible] industry, Dr. Salsbury's Laboratories have developed a field staff of experienced men who are fully qualified to help you with feed formulation. This staff, like the other services listed here, is unequalled in the [illegible]. Ask your [illegible] Better Feeds Shows where one of the Poultry Short Courses is at Charles City. Here dealers, field servicemen, and poultrymen get first-hand training in the essentials of poultry health. Or write, print, or phone for further information. No matter what your size or location, your request will get immediate and personal attention.

MEDICATION ALONE IS NOT ENOUGH

Because good husbandry is necessary for a feed product to do its best work, Dr. Salsbury's [illegible] consumer advertisements carry this message: PROPER MEDICATION IS ONLY ONE PART OF GOOD FLOCK [illegible] MANAGEMENT. FOR BEST RESULTS, PRACTICE SOUND FEEDING, HOUSING, SANITATION AND PEST CONTROL.

Dr. SALSBURY'S LABORATORIES
Charles City

NATIONWIDE SERVICE TO THE FEED INDUSTRY

Economists Discuss New Trend in Broiler Production

DURHAM, N.H. — As broiler production expands, will contracting be supplemented by production on farms owned by marketing firms?

This is a question asked by two University of New Hampshire agricultural economists, G. B. Rogers and E. T. Bardwell, in a recent issue of Combings, a publication of the university's poultry department.

Pointing out that by 1957 about 4% of the total live poultry supply in New England came from farms owned by assembling or processing firms, they said what happens in the future depends on several factors.

"Ownership of producing units affords the integrated firm the maximum opportunity to regulate output and standardize quality," they reported. But the extent to which further development in this direction will occur will depend on the availability of new independent and contract farms, the ability of present farm operators to reinvest in producing facilities, the supply of capital available to marketing firms and alternative uses for it, and relative costs of producing on large-scale owned farms versus independent and/or contract farms.

Data from a recently-completed study by New Hampshire, Massachusetts and the U.S. Department of Agriculture show the current extent of contract growing in New England, the report said. Almost two thirds of the 469.6 million pounds of live poultry hauled by New England assembling firms in 1957 was from farms under contract to, or owned by, the hauler or his employer.

Integration of production and marketing has not developed to the same extent in egg producing enterprises as in commercial meat chicken enterprises. Supplies of fowl and related classes come largely from independent farms. But almost three fourths of the young chicken volume in New England is from contract farms.

New Mill Planned

NOMINI, VA. — Officials of the Northern Neck Grain Cooperative have begun negotiations in connection with financing a new feed mill and grinding facility.

J. T. Robertson, general counsel for the cooperative, said the mill would be an addition to existing facilities. Cost of the expansion was estimated at $50,000.

The co-op would operate also a grain bank of 30,000-40,000 bu. capacity in conjunction with the new building program.

Glenn M. Fulks Joins Dr. Salsbury's Labs

CHARLES CITY, IOWA—Glenn M. Fulks, Lancaster, Ohio, has joined Dr. Salsbury's Laboratories, Charles City, as territory manager for southern Ohio.

Glenn M. Fulks

Mr. Fulks will manage the firm's sales and service of livestock and poultry health products.

He attended Franklin (Ind.) College.

Mr. Fulks has previously had several years of experience in the feed and animal health industries.

New Headquarters

BAKERSFIELD, CAL.—The Western Feed Supplement Co. has erected new headquarters on the ground of the Gosford Feedlot of the Kern County Land Co. Partners Don Lawson and Gerald Van Horn will manufacture and distribute booster supplements for feed manufacturers.

WINS SCHOLARSHIP—Patricia Ann Roudabush (center) has been named winner of the Beacon Founders' Scholarship, presented annually by the Beacon Milling Co., a division of Spencer Kellogg & Sons, Inc. Presenting the award is Stanley W. Tyler, president of Beacon. At left is the girl's father, Marion Roudabush, who has been with Beacon 18 years. The scholarship is named in honor of the founders of the company and is worth $500 a year during a four-year college course. It is presented each year to a dependent of a Beacon employee with five years or more of service.

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DETERMINATIONS OF:

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A.O.A.C. vitamin D_3 chick assays

U.S.P. vitamin D rat assays — results in 8 days

U.S.P. or A.O.A.C. vitamin A assays

Other vitamin assays

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THE Marion MIXING and BLENDING ACTION

AN EXCLUSIVE DESIGN!

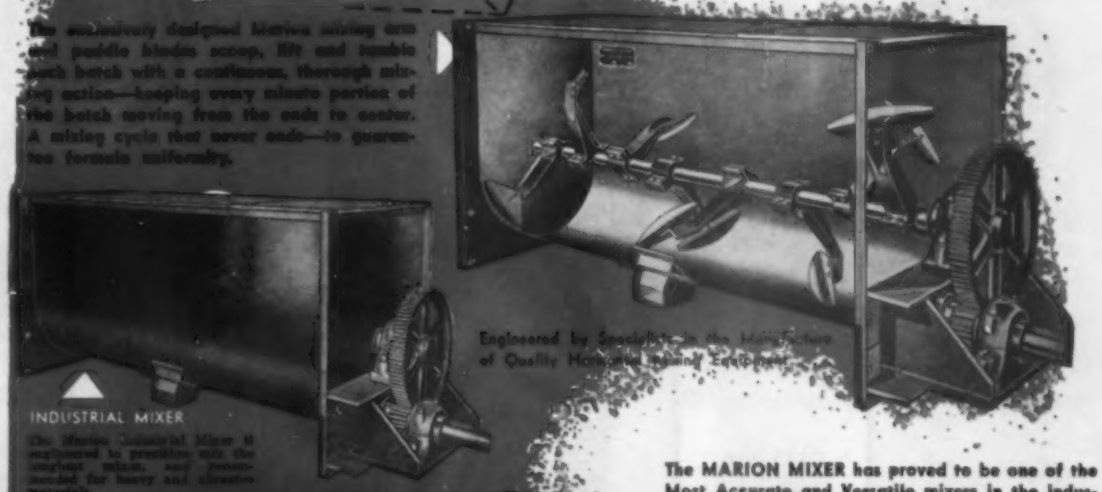
the Best Answer to any mixing problem!

MIXING:
• DRY FEEDS

BLENDING:
• MOLASSES • ANIMAL FATS
• FISH SOLUBLES
• OTHER LIQUID ADDITIVES

You need only one mixer in your plant or mill to satisfy all your mixing and blending requirements, the MARION MIXER. The Marion Mixer handles the mixing of dry feeds, and blending of molasses, fish solubles, animal fats and other liquid additives with the same ease and dependability.

The exclusively designed Marion mixing arm and paddle blades scoop, lift and tumble each batch with a continuous, thorough mixing action—keeping every minute portion of the batch moving from the ends to center. A mixing cycle that never ends—to guarantee formula uniformity.



Engineered by Specialists in the Manufacture of Quality Horizontal Mixing Equipment

INDUSTRIAL MIXER

The Marion Industrial Mixer is engineered to precision mix the toughest mixes, and possesses needed for heavy and abrasive materials.

STANDARD MIXER

A versatile, dependable mixer that will provide accurate mix uniformity for years to come.

TWIN MARION MIXER

Designed for the mixer with feed mill, requiring high production mixing equipment and flexible handling.

The MARION MIXER has proved to be one of the Most Accurate and Versatile mixers in the industry. The exclusive Marion mixing and blending action is the key to its accuracy because of its continuous cross-blending and other mixing action which insures that even the smallest amounts of materials can be thoroughly and completely blended into your product. A constant uniform mix is guaranteed batch after batch, bag after bag.

Send TODAY!

RAPIDS MACHINERY CO.
387 11th Street, Marion, Iowa

I am interested in the MARION MIXERS checked below:

☐ MOLASSES MIXER: CAPACITY ☐ 1000# ☐ 2000# ☐ 3000# ☐ 4000#

☐ DRY MIXER CAPACITY ☐ 300# ☐ 500# ☐ 1000# ☐ 2000# ☐ 3000# ☐ 4000# ☐ 6000#

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Integration in Canada's Poultry Industry Discussed

TORONTO, ONTARIO — An address on vertical integration in Canada's poultry industry was delivered by Prof. J. R. Cavers at the annual meeting of the Ontario Poultry Producers Assn. in Toronto.

Prof. Cavers pointed out that since most clauses of today's contracts are tied in some way to market price, the immediate and future returns to the various integrated parties—the grower, hatchery and feed people, and processor—are thus at stake. "Of the four, the processor is closest to the retail outlet and is, therefore, in the best position to interpret for his integrated partners any immediate and long-term requirements. That is why most observers agree that the processor is the logical one to act as contractor."

The speaker noted that integration has not curbed overproduction in Canada nor in the U.S. He added, however, that the Ontario Poultry Processors Assn. recently put on a vigorous and successful effort to cut back broiler production. "Their success may be short-lived, however, because what we might call 'independent contractors' are searching out growers with houses left empty temporarily by the processors and filling them with 'fire sale' chicks," Prof. Cavers said. "These arise through cancellations of chick orders and from hatching eggs being imported in large volume from Georgia, now 250,000 eggs a week, by one or more Ontario hatcheries for as little as 30¢ doz. Thus the members of the processors association, while they process probably 95% of Ontario's broilers, are finding out that they control by contract less than 70% of the production—and the percentage is declining as other interests fill in the vacuum created by the attempted cut-back."

The speaker asserted that if contract production is inevitable in the broiler business, then it seems obvious that the more fully integrated through to the marketing level, the more likely it is to achieve reasonable control of production.

Prof. Cavers said the quality-control programs are here already, and that much more will be heard of quality-control in the future.

Regulation of Supply

"Regulation of supply will pose a problem, both in size and quality of eggs. Year-round placements and much indoor rearing will be required, and this in turn may call for grower contracts, some flock financing and other aids," he said.

"Any flock selected for a quality control program should be able to qualify for several months and be paid a premium on each dozen; sooner or later it will be shifted to a graded or trade egg program to finish out the season," according to Prof. Cavers. He mentioned that it is questionable whether cooperatives, as we know them, can be "tough-minded" enough to run such a program.

"Contract production without quality control is not likely to succeed as a permanent program. Experienced buyers will soon know if they can trust an egg contractor and if his eggs warrant a premium brand and premium price. Without such, many producers may nevertheless seek out egg contractors in order to get flocks and perhaps buildings financed; it is an easy way to expand their business," the speaker said.

"If the whole thing revolves around a scheme to sell more chicks and feed, however, it violates the first principle of vertical integration—production of a given quality for a given market outlet. Canada's egg support program is the key to interest in contract production of eggs, but even that is losing its appeal now that the price for all grades is averaging lower, despite the 2-3¢ increase in support for grade 'A' large."

Southeast Toured by Bankers and Farmers

OCALA, FLA.—Bankers and farmers traveling with the South Carolina Farm Opportunities & Marketing Caravan recently were told the Southeast is "the best place in America to raise hogs."

Reid Willcox, Georgia manager, Norris Cattle Co.'s huge hog operation in Montezuma, Ga., told the group that his optimism was based on a comparison of his company's farming activities in Iowa, Indiana and Illinois as contrasted with the Southeast.

On the second day of the 1,400 mile tour, the Carolina group visited a highly mechanized central egg grading plant at Douglas, Ga.

They learned that farmers in the area are now raising 300,000 hens for commercial egg production, mostly under contract with feed dealers.

The farmer receives a guarantee of 5¢ doz. eggs produced for furnishing the housing, equipment and labor, while the feed dealer supplies the chickens and feed.

M. D. Farrar, dean of agriculture, Clemson College, joined the touring group at a luncheon stop at Douglas. He said he hoped that members of the tour would take back to South Carolina money-making ideas, in line with Clemson's goal of increasing South Carolina's farm income.

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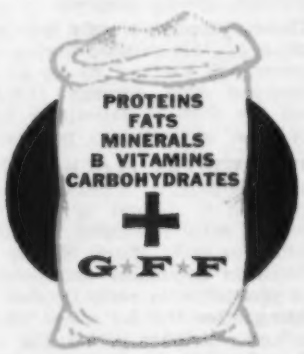

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Scientist Outlines 3-Flock System For Turkey Breeders

The advantages of year-around turkey production and a "three-flock system" for beeder flocks to attain it were outlined at the 1959 Yieldmor Turkey Management and Disease Clinic sponsored by Yieldmor Feeds, Inc., Piqua, Ohio.

Dr. M. G. McCartney, Ohio Agricultural Experiment Station, said that although a large part of the annual turkey crop is still raised to supply the holiday markets, there is an increasing trend toward off-season production and, consequently, the development of a turkey industry on a year-around basis.

"Year-around production would appear to have many advantages for all phases of the turkey industry. The grower could use buildings, equipment and labor more efficiently. The processor would be able to operate his plant more efficiently by continuous operation, and consequently would not have to hold so many surplus birds in cold storage," the speaker explained.

"Holding turkeys in storage for four months necessitates an increase of 3¢ lb. in price. The housewife would be able to obtain her favorite sized turkey any time of the year, and probably at a lower price."

Dr. McCartney went on to say that many hatcheries and flock owners would not need to operate on a seasonal basis, and also would be able to use their buildings, equipment and labor more efficiently. "This would mean the end of an inefficient era of turkey production, and would result in a full-time turkey industry where all segments are coordinated for maximum efficiency," he declared.

The turkey industry could go into full-time production with year-around production of hatching eggs and poults, Dr. McCartney said. "Although none of the strains of turkeys available today will reproduce at an economical rate for more than a few months, it is entirely possible at this time to produce hatching eggs and poults any time during the year, even with strains that are available now."

Breeder Management Plan

He went on to say that to maintain a steady supply of poults throughout the entire year, it is necessary to develop a breeder management program that will provide an environment conducive to maximum reproductive performance during all seasons of the year.

"Controlling the lighting is the key to year-around production of hatching eggs, making it possible to condition the potential breeder hen for production any time during the year," he said.

"It is well known that turkeys are very sensitive to changes in day length, and under conditions of natural day length normally lay only during the spring months. However, recent work in the field of lighting has shown that the turkey hen can be tricked into laying any time during the year by proper control of the light both before and after she comes into production. Therefore, by the use of a controlled lighting program, it is possible to produce hatching eggs throughout the year."

"Since a flock of breeders will not lay at an economical rate for more than about four months, year-around production can be achieved by the use of a three-flock system."

Dr. McCartney outlined the three-flock system, involving controlled lighting to bring breeders into production at regular intervals throughout the year, as follows:

SPRING FLOCK — Under conditions of natural light, summer-hatched breeders will come into production naturally in March and continue to lay until late June. This is the normal season for egg production in the turkey, and no management of light is necessary to stimulate and maintain production during this season of the year.

SUMMER FLOCK — Controlled lighting is the key to economical production during this season of the year. Temperature may also be important, but the rate of temperature and its effect on reproduction has not been evaluated yet.

As for lighting and summer production, work at the Ohio station and elsewhere has shown rather conclusively that by restricting turkey breeder flocks to short days of 9 hours or less for 3-4 weeks before the use of lights to stimulate production, it is possible to obtain satisfactory summertime production.

Turkeys hatched in December can be restricted in June and brought into production by mid-July by providing a 15-hour day after the restriction period.

The technique of controlled lighting simply simulates winter and spring natural day length in a short period of time at the end of the growing period, and before sexual maturity normally occurs. Most strains of turkeys will attain sexual maturity at a much earlier age than most flock owners assume they should before starting to lay.

It costs money to maintain a flock of breeders several weeks longer than necessary before bringing them into production. Most strains of turkeys will start to lay at 26-28 weeks of age if the lighting conditions are right. Breeders intended for summer production must be restricted before laying commences if maximum results are to be obtained from the controlled lighting program.

Turkey breeders brought into production by this method during the summer will continue to lay at an economical rate through October when the third or fall-winter flock should be brought into production.

FALL-WINTER FLOCK — Controlled lighting is necessary if egg production is desired by late October or early November. Breeders hatched in early March can be restricted in September and brought into production in early October by lighting after the 3-4 week "short-day," or restriction period. For late fall and winter production, restriction is not absolutely necessary. However as late as November, controlled lighting can be used to advantage.

Turkeys brought into production by the use of restriction start to lay sooner and come into production more uniformly than when production is stimulated by lighting alone without the use of restriction. Also, they will reach a higher level of production and maintain an economical rate of production for a longer

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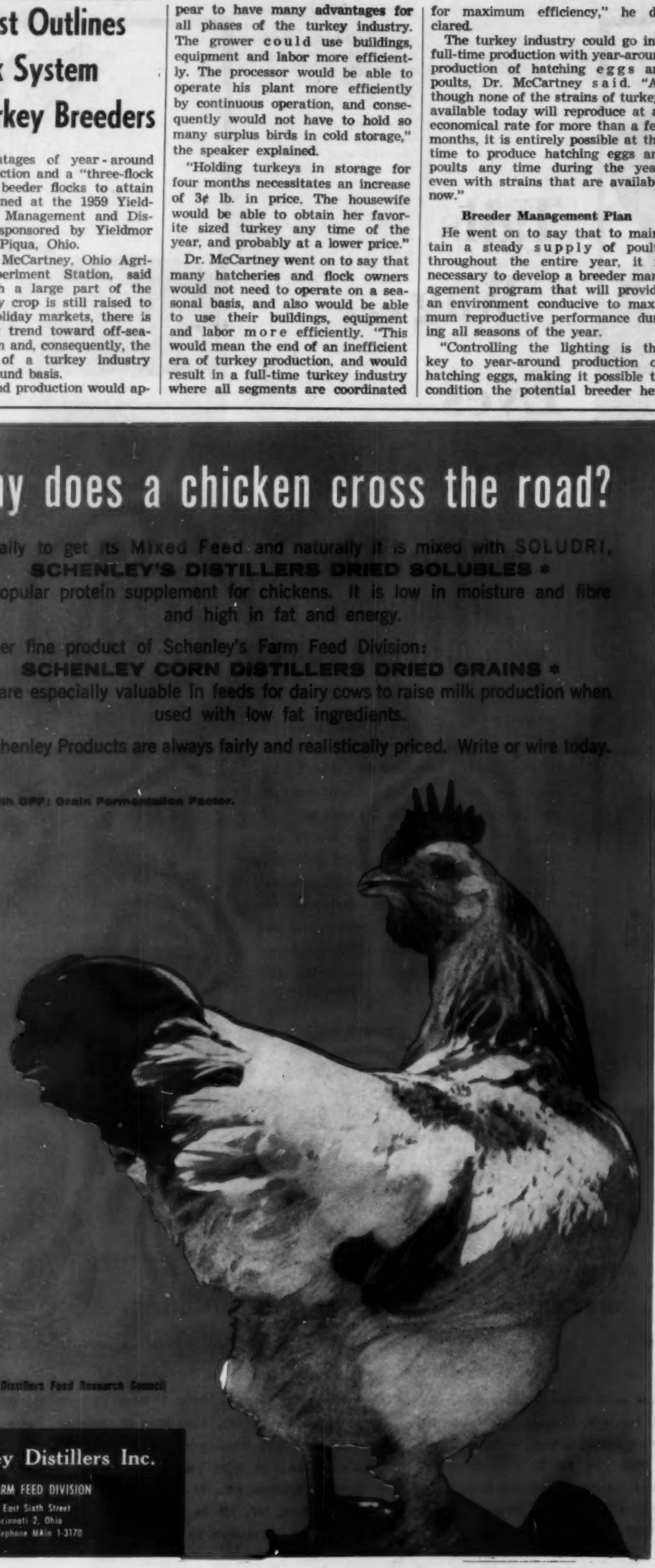

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period of time than their non-restricted counterparts.

Breeder flocks brought into production by restriction in September and lighted in October will produce hatching eggs at an economical rate through February.

Production Records

During the past year, the three-flock system was successfully used at the Ohio station to produce hatching eggs and poults over a 50-week period. Production averaged 48% for all three flocks. For the spring flock it averaged 50% during a 16-week period, while for the summer and fall flocks it averaged 46% and 49% for a 14-week and 20-week period, respectively. There was no evidence that either fertility, hatchability or poult quality was different for any of these three flocks.

Therefore, these results would indicate that it is commercially possible to produce hatching eggs and poults on a year-around basis by the use of the three-flock system and a breeder management program which utilizes the controlled lighting system and sound management practices.

Replacement Birds

Managing turkey breeder flocks for year-around production requires considerable planning and specialization in order to be a success. The flock owner will have to start replacement birds every four months, if the effective laying period for profitable production for his strain of turkeys is this length of time. This means that two groups of replacements will have to be reared for every group of breeders in the laying house. The new flock of breeders will have to be in production and ready to take over before the other flock is sent to market. Also, the flock owner's program must be flexible enough to meet the needs of his hatchery operator for hatching eggs.

In essence, this means that there must be complete coordination between the flock owner and the hatchery, and the hatchery must be large enough to adjust its program to market fluctuations throughout the year. Consumer demand will govern the size and quantity of turkey that any given market will absorb during the year.

Value of Tranquilizer For Cows Said 'Limited'

FT. COLLINS, COLO.—Only in special cases does it pay to use tranquilizers on dairy cattle, according to Carl J. Hoffman, extension dairyman at Colorado State University. "There is little value in general use of the drug for an entire dairy herd," he says.

He commented further that there is considerable disagreement on the value of the oral tranquilizer treatment, but cited one case in which this treatment was used on six cows which tended to be nervous, and that production was increased, the cows were easy to handle and there were no adverse effects after the treatment was discontinued.

Many dairymen are administering the tranquilizers by an injection, although results have been "spotty," according to Mr. Hoffman. He said its chief value is in training nervous heifers for the milk barn. In such cases Mr. Hoffman advised giving the injection at some location away from the milk barn so the heifers will not develop an unpleasant association with the milking procedure.

Researchers at the Colorado experiment station report that a shot of 25 cc. of a tranquilizer, injected into a muscle, will affect a cow for about 24 hours. After using tranquilizers on cows for about four months, the drug had no noticeable effect on either milk production or butterfat content.

Pelleted, Crimped Barley Compared

COLLEGE PARK, MD.—A recent feeding trial on beef calves at the University of Maryland indicated there is no apparent advantage in feed efficiency in using pelleted barley as compared to feeding crimped barley. However, this information is the result of only one feeding trial, run last winter, and as is the custom in such experiments, the trials must be repeated before definite conclusions can be drawn, said Dr. J. E. Foster, head, animal husbandry department, University of Maryland College of Agriculture. Plans are to repeat the test with similar calves starting next fall, he added.

Research at the university has shown that the feeding value of barley for growing and fattening swine was materially improved by pelleting. "Since barley makes up an important part of the feed grains produced in this area, it would be most worthwhile to determine the value of pelleting it for beef cattle," Dr. Foster explained.

Used in the experiment were 56 Angus and Hereford calves from the university herds. These calves were weaned and started on feeding trials last October. There were two lots of 11 steers and four lots containing 8-9 heifers. The group of calves was divided into as uniform lots as possible according to breed, sire, age and weight. All lots received a ration of barley, alfalfa-grass hay, protein supplement and minerals.

In one of the steer groups and in two of the heifer groups the barley was pelleted, while in the other groups it was crimped. The calves averaged eight months of age going on trial. At the start of the trial, the steers averaged 500 lb. and the heifers 465 lb.

Gains in all six lots of calves were satisfactory, considering that they had been creep-fed. Average daily gains for the heifers were approximately 1.7 lb. to April 21, and 2.1 lb. for the steers to the last weigh day, April 21.

Dr. Foster pointed out that since the cost of pelleting the barley was $4 more per ton than crimping it, the cost of gain was greater in the pelleted groups. Indications from this one trial are that pelleting barley for finishing beef calves fed the above rations would not be a profitable procedure, he said.

FEED BUSINESS SOLD

RAPID CITY, S.D.—Haines Feed & Poultry, Inc., here has been purchased by Lyle Heath and will be operated as the Heath Grain & Feed Co. Mr. Heath said he plans to expand the business to include bulk storage of farm grains, seeds, salt, posts and fencing supplies as well as a complete line of Purina products.

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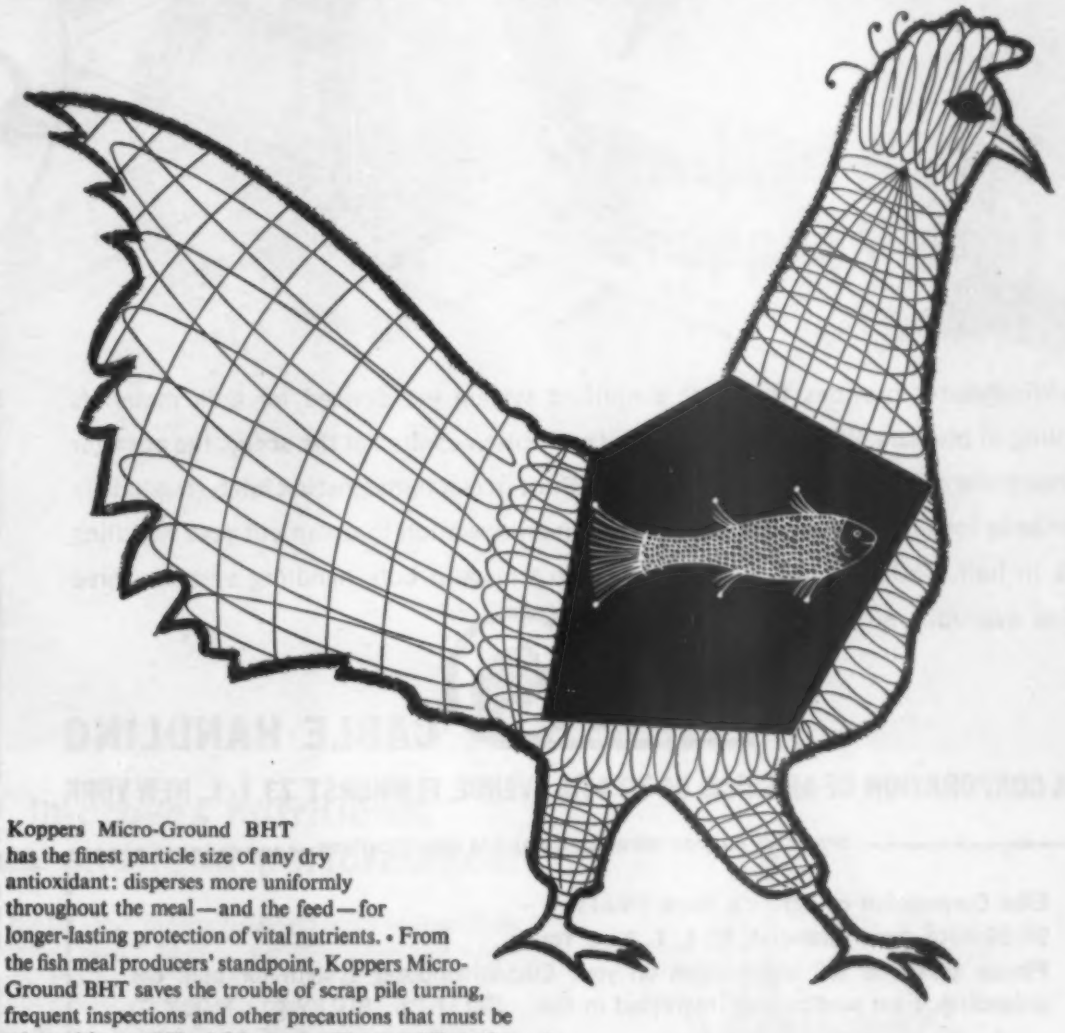

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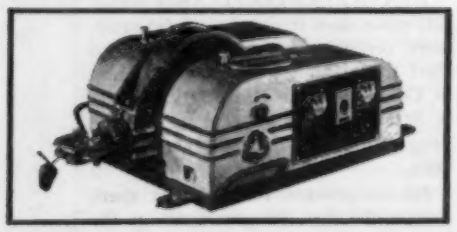
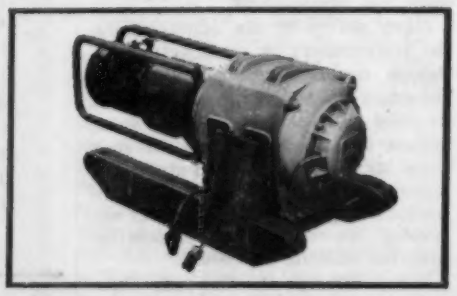


BULLY – Extra power for heavier jobs and increased efficiency. Output – 40 tons of soft feed per hour. Generates a pull of 2400 pounds. Powered by a 3.5 HP electric motor (220-440 volts) or 8 HP gasoline engine. It weighs 870 lbs.



MOBY – A duplex unit, basically the same as the BULLY model. Output – 80 tons of soft feed per hour. Operates two scoops, each independently controlled by push-button switch. It weighs 946 lbs.

Supplement Trial Results Reported

COLLEGE PARK, MD.—Results of a trial conducted at the University of Maryland on the use of a commercial feed supplement containing urea, molasses, ethyl alcohol, phosphoric acid and trace minerals, were reported recently. Researchers said the study indicated that the supplement is worth about the same per ton as 45% soybean oil meal.

The product has been used in this area to supplement farm grown grains by a relatively large number of feeding operations with apparent satisfactory results, university specialists reported, but its comparative feeding value with one of the standard protein supplements such as oil meals had not been determined, since no check lots were included.

Dr. J. E. Foster, head, animal husbandry department, Maryland, said a test using soybean oil meal in check lots was run.

Four lots of Angus and Hereford heifer calves received a ration of barley, alfalfa-grass hay and minerals. In addition, two lots were fed soybean oil meal at the rate of 1 lb. to 8 lb. barley. In the other two lots, calves had access at all times to the liquid commercial supplement fed in tanks.

Dr. Foster said that for the 196-day feeding period, average daily gain per head for all four groups was 1.7 lb. but there was no significant difference in gains between any of the groups. The average consumption of barley and hay per day and per unit of gain were greater in the supplement lots than in the soybean oil meal lots. Although somewhat less supplement was consumed per unit of gain than soybean oil meal, the cost of gains was highest in the supplement lots, Dr. Foster said. With soybean oil meal at $96 ton and the supplement at $115 ton, the cost per hundred pounds of gain averaged $2.10 less in the soybean oil meal groups.

Slaughter grades taken at the close of the feeding trial and carcass grades of the 12 representative heifers slaughtered showed no apparent difference among the four lots.

Dr. Foster said the university plans to repeat the trial with similar calves starting next fall.

G.L.F. Honors 67 Veteran Employees

BUFFALO, N.Y.—The Cooperative G.L.F. Exchange, Inc., recently honored 67 of its Buffalo mills and seed division employees for service ranging from 5 to 35 years. The employees were guests at a dinner in Hotel Stuyvesant.

Charles H. Riley, Ithaca, director of wholesale, spoke and presented jeweled emblems to these veteran employees: Fred H. Hesselschwerdt, William D. McMillan and John Norwig, for 35 years of service; Charles Appleton, Jack Kitching and Robert Ludwig, 30 years.

Richard W. Smith, Mills Division manager, presented gold wrist watches to 25-year employees.

Gold and jeweled emblems were presented to 44 other employees with service from 5 to 35 years.

GROUP BUYS FEED MILL

UNDERWOOD, MINN.—A corporation formed by six Underwood men has purchased an elevator and feed mill here from Paul H. Gust. Members of the corporation are Elmer Nietfeld, Cliff Peterson, Gordon Bakken, Art Wagstrom, John Mark and Lawrence Jensen. They said they plan several improvements in the elevator and mill.

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Canada Firms Export Hatching Eggs to U.S.

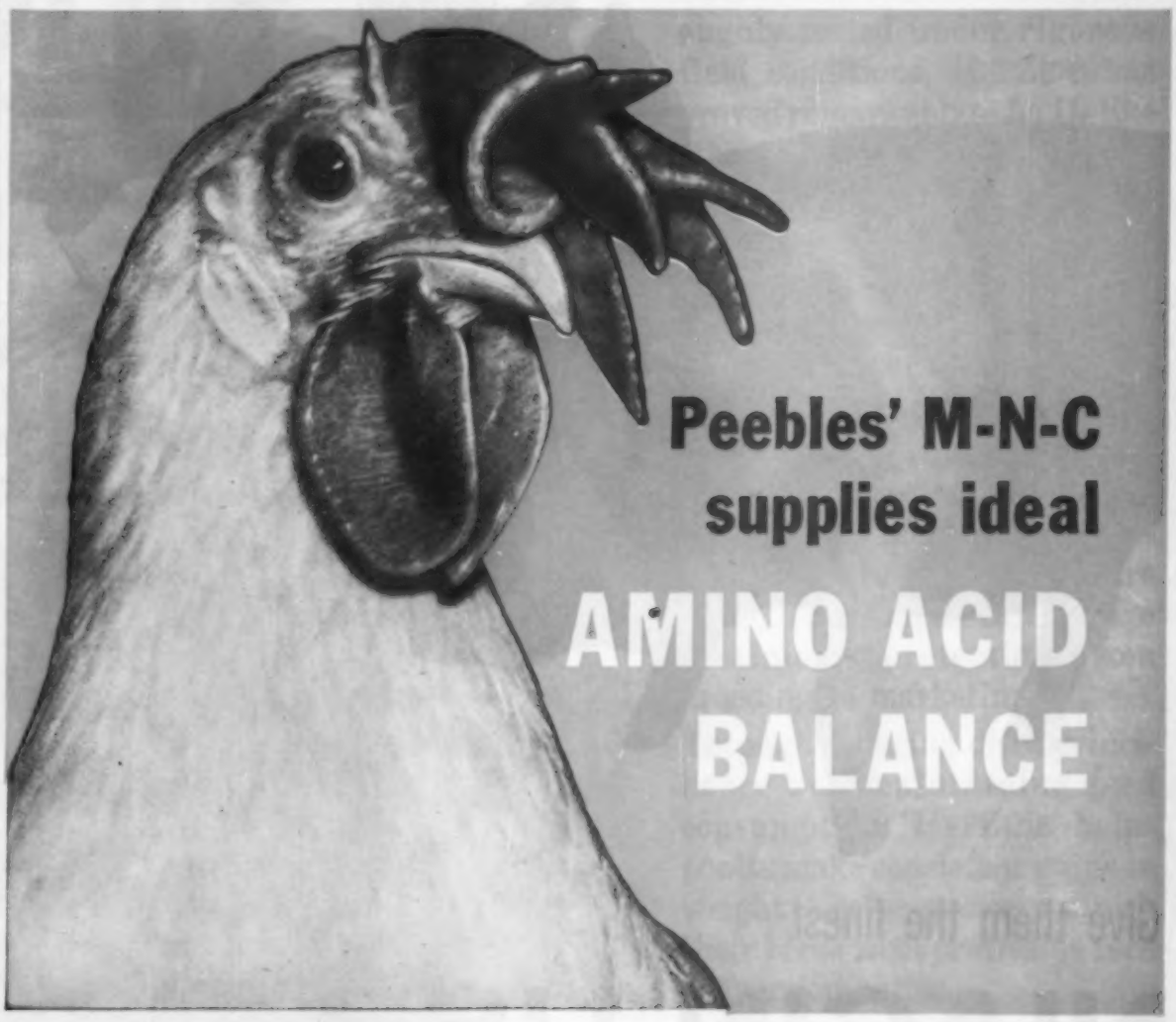
WINNIPEG — Major shipments of turkey and chicken hatching eggs to the U.S. have been made by Manitoba hatchery operators in recent weeks.

F. A. and M. G. Tufford, Portage la Prairie, made two shipments totalling 7,600 turkey hatching eggs to the Geeslin Turkey Farm, Goldthwait, Texas. The Texas importer plans to utilize the Tufford Broad Breasted Bronze strain as a hatchery supply flock in that area.

The Manitoba R. O. P. Breeders Hatchery, Winnipeg, exported 60 doz. M. Groups Barred Rock pedigreed hatching eggs to the Klager Hatchery, Bridgewater, Mich. This foundation breeding stock will be utilized in the Klager Hatchery breeders program.

The Manitoba exporter is the largest producer of pedigreed stock in Canada.

DEALER TRAINING—A dealer training school was held recently at Clinton, Iowa, by the feed division of the Pillsbury Co. The school was conducted by Frank Steinmetz and Gene Spencer. Those attending included (first row, left to right): G. R. Peterson, general manager of the feed division; James Blayney, Maquoketa, Iowa; Mr. Steinmetz; Mr. Spencer, and Dexter Obenhaus, Princeton, Ill. In the second row are (left to right): Lloyd Hoffman, Mendon, Ill.; Lee Dorf, Princeton, Ill.; Joe Zuidema, Prophetstown, Ill.; Lester Berkner, Sleepy Eye, Minn.; Donald Harshfield, Clinton; Ferris Pope, Linton, Ind., and Bob Dykema, Miles, Iowa. In the third row are (left to right): Dale E. Rhodes, Dixon, Ill.; Ronald Oleson, Hooppole, Ill.; Dave Markle, Waseca, Minn.; Forrest Lowe, Nashville, Tenn.; Bob Earl, New York; Ronnie King, Sheldon, Ill., and George Carlson, Taylor Ridge, Tenn.



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Poultry Producers Of California Shows Sales Gain of 4.4%

SAN LEANDRO, CAL.—Total dollar volume of business of Poultry Producers of Central California for the year ending Dec. 27, 1958, was up 4.4% to $51,698,000, an increase of $2,200,000 from the previous year, according to an annual report by L. N. Thompson, general manager, in the May issue of the cooperative's Nulaid News.

Mr. Thompson said this increase in business was due to higher average egg prices and increased volume of feed, farm production supplies and petroleum products.

Feed patronage in 1958 totaled 292,202 tons, up 22,223 tons, or 9% above the previous year. Mixed feed tonnages were up 7.5% on poultry, 20% on turkey and 10.5% on dairy feeds.

The percentage of total feed sales delivered in bulk from Poultry Producers' five mills increased again last year, and at year-end amounted to 60% of total sales—up 15% from a year earlier.

In recent years, Mr. Thompson reported, the organization has procured a greater percentage of some of its largest volume ingredients from within California. Barley, a basic California crop, has been supplemented by large production acreages of milo and corn. Last year Poultry Producers took advantage of the availability of "egg-tested" cottonseed meal as an ingredient in laying rations, he noted.

Feed Dollar Breakdown

Nulaid News reported this breakdown of patrons' 1958 feed dollar: 83¢ for ingredients, 7.5¢ for storage and milling, 5.5¢ for general labor and expense, 3¢ for branch operating expense and 1¢ for transportation.

The cooperative's egg department handled 1,865,805 cases of eggs in 1958. Receipts from members were 1,827,301 cases, down a fraction of 1%. Mr. Thompson said the difference between eggs marketed and receipts from members was 38,504 cases procured to fulfill customers' requirements.

Consolidation of eight egg-packing plants and two distributing plants into the San Leandro plant was completed.

Farm production supply volume in 1958 was a record $1,618,206, a 43% gain or nearly one half million dollars over the previous year.

Poultry Producers' cooperative savings were reported at $2,269,000, an increase of $283,000 from the previous year. There was no egg deferred payment on members' egg deliveries in 1958, because, Mr. Thompson explained, full returns were made to members week-by-week throughout the year.

Patronage refunds averaged $10.06 ton on purchases of mixed poultry feeds, $5.42 ton on dairy feeds, $2.14 ton on grains, seeds, oil meals, hay, straw and commodities not otherwise classified, 1¼¢ gallon on petroleum products and 7¢ on every dollar of purchases of farm production supplies.

Livestock Sales Boost Canadian Farm Income

OTTAWA — Greater returns from the sale of livestock and animal products pushed Canadian farmers' cash income last year to $2,847 million, or 8% higher than the 1957 total of $2,577 million, according to figures released by the Dominion Bureau of Statistics. The 1958 figure was near the 1952 record of $2,900 million. The figures were exclusive of Newfoundland totals which were not available. Cash income, according to official figures, was higher in all provinces.

Lower returns for prairie field crops were more than offset by higher incomes for those crops in eastern Canada. Livestock returns placed at $1,744 million last year were 14% greater than in 1957, with larger returns from the sales of cattle and calves the main factor. Lower hog prices were offset by larger marketings, and income from hogs was estimated at $325 million compared with $292 million in 1957.

Sales of dairy products in 1958 brought an estimated return of $495 million. This was 8% more than the year previous and resulted largely from increased marketing and higher prices.

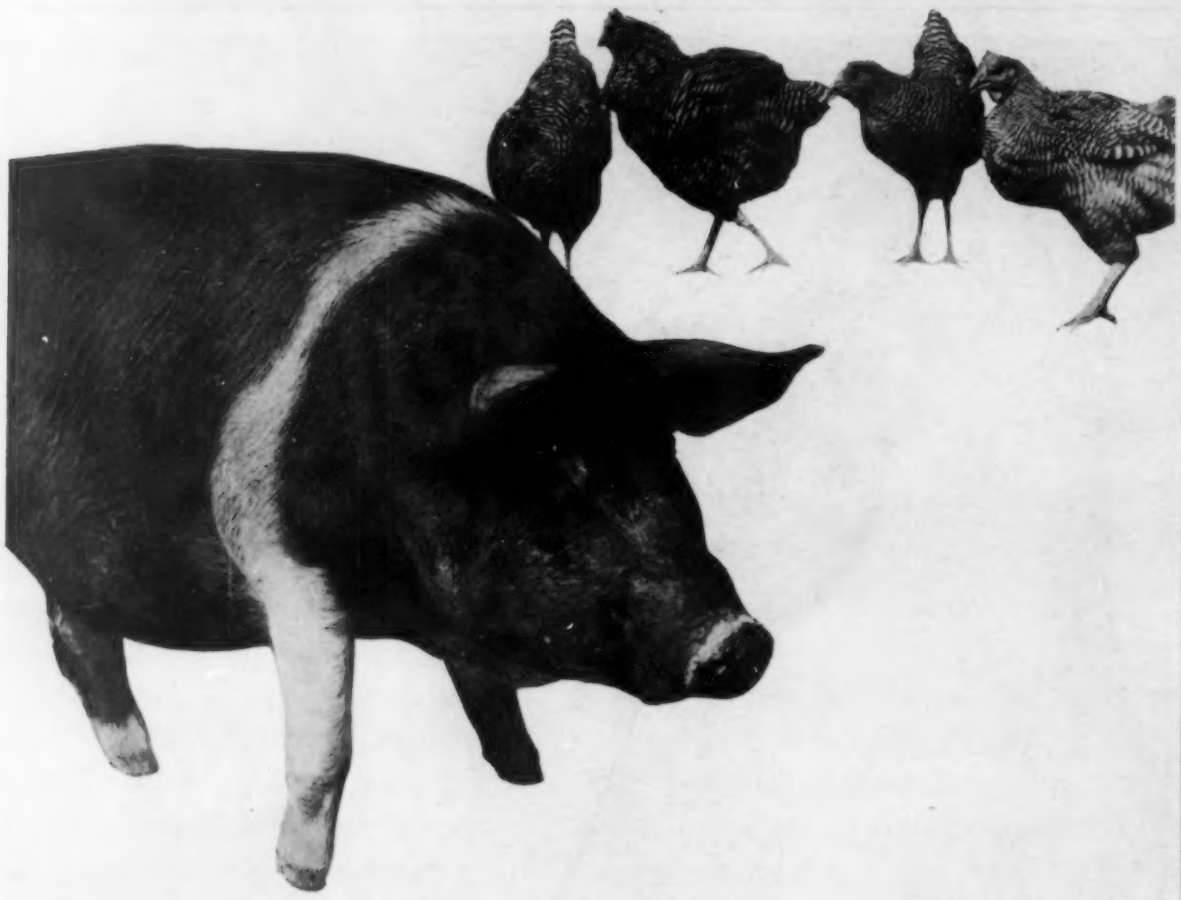
Income from wheat in 1958 was estimated at $427 million or nearly $50 million over the 1957 total.

Firm in England Makes Small Pellet Machine

SLOUGH-BUCKS, ENGLAND—A small pelleting machine, powered by a 5 h.p. motor and said to be capable of producing pellets ranging in six sizes from ⅛ in. to ⅝ in. in diameter, is being manufactured by Templewood Hawksley, Ltd., Slough-Bucks.

J. E. Marriott, director and general manager, said the pelleter can be used by farmers who do their own feed mixing.

The machine requires no steam or other binding agent, he said, and has an output of up to 5 cwt. per hour depending on the size of the pellet.



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(2) Niacin F-5 (A blend of 50% Niacin USP and 50% soy flour).
(3) Niacin F-8 (A blend of 80% Niacin USP and 20% finely pulverized soy flour).

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Since HEPZIDE was introduced, it has proved remarkably effective against the parasites responsible for blackhead in turkeys and chickens and hexamitiasis in turkeys. Now... HEPZIDE "30"—a new premix—added to your rations will help provide growers with *continuous protection* against costly outbreaks of these two important protozoan diseases, with a range of use levels to meet varying field conditions.

Absence of side effects. Thoroughly tested under rigorous field conditions, HEPZIDE has proved remarkably safe. Unlike other antiblackhead agents...

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- subsequent egg production
- fertility or hatchability

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Through reducing disease incidence and maintaining feed consumption, HEPZIDE helps poults make consistent gains in weight...helps growers finish their birds with profitable feed conversion ratios.

Benefits of preventive program. The most practical and economical approach to the problem of blackhead and hexamitiasis is the *continuous* use of feeds medicated with HEPZIDE. Prophylactic levels of this compound will help check tissue damage and mortality as a result of these diseases, *and your growers market heavier birds at an earlier age.*

Merck & Co., Inc., Chemical Division, Rahway, N. J.

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Charts Show Supplement Needed for Hogs

AMES, IOWA—The accompanying charts appeared in a booklet—"Applied Life Cycle Swine Nutrition"—published by Iowa State College.

The publication was prepared by Dr. Damon V. Catron; Dr. Vaughn C. Speer; Prof. Virgil W. Hays; Dr. James D. Jones; Francis Diaz and graduate assistants.

The booklet is organized into the following sections: Principles of Life-Cycle Nutrition and Feeding Program; Nutritional Requirements and Ingredients for Swine Rations; Balanced Swine Rations, and Grain and Supplement Mixing Charts.

The charts show the amount of supplement of different percent protein needed with corn to formulate rations of different levels of protein, and the amount of supplement of different percent protein needed with three quarters corn and one quarter oats to formulate rations of different levels of protein.

Amount of supplement of different percent protein needed with corn to formulate rations of different levels of protein.

(Shelled Corn Only Figured at 8.5 Percent Protein)

Percent Protein in Supplement		Percent Protein in Total Ration										
		10	11	12	13	14	15	16	17	18	19	20
30	Grain (lb)	1860	1767	1674	1581	1488	1395	1302	1209	1116	1023	1070
	Suppl. (lb)	140	233	326	419	512	605	698	791	884	977	930
	Lb. grain per 1 lb. suppl.1/	13.3	7.6	5.1	3.8	2.9	2.3	1.9	1.5	1.3	1.0	1.2
31	Grain	1867	1778	1689	1600	1511	1422	1333	1244	1156	1067	1022
	Suppl.	133	222	311	400	489	578	667	756	844	933	978
	Lb. grain per 1 lb. suppl.	14.0	8.0	5.4	4.0	3.1	2.5	2.0	1.6	1.4	1.1	1.0
32	Grain	1872	1787	1702	1617	1532	1447	1362	1277	1191	1106	1021
	Suppl.	128	213	298	383	468	553	638	723	809	894	979
	Lb. grain per 1 lb. suppl.	14.6	8.4	5.7	4.2	3.3	2.6	2.1	1.8	1.5	1.2	1.0
33	Grain	1877	1796	1714	1633	1551	1469	1388	1306	1224	1143	1061
	Suppl.	123	204	286	367	449	531	612	694	776	857	939
	Lb. grain perll lb. suppl.	15.3	8.8	6.0	4.4	3.5	2.8	2.3	1.9	1.6	1.3	1.1
34	Grain	1882	1804	1725	1647	1569	1490	1412	1333	1255	1176	1098
	Suppl.	118	196	275	353	431	510	588	667	745	824	902
	Lb. grain per 1 lb. suppl.	15.9	9.2	6.3	4.7	3.6	2.9	2.4	2.0	1.7	1.4	1.2
35	Grain	1887	1811	1736	1660	1585	1509	1434	1358	1283	1208	1132
	Suppl.	113	189	264	340	415	491	566	642	717	792	868
	Lb. grain per 1 lb. suppl.	16.7	9.6	6.6	4.9	3.8	3.1	2.5	2.1	1.8	1.5	1.3
36	Grain	1891	1818	1745	1673	1600	1527	1455	1382	1309	1236	1164
	Suppl.	109	182	255	327	400	473	545	618	691	764	836
	Lb. grain per 1 lb. suppl.	17.3	10.0	6.8	5.1	4.0	3.2	2.7	2.2	1.9	1.6	1.4
37	Grain	1895	1825	1754	1684	1614	1544	1474	1404	1333	1263	1193
	Suppl.	105	175	246	316	386	456	526	596	667	737	807
	Lb.grain per 1 lb. suppl.	18.0	10.4	7.1	5.3	4.2	3.4	2.8	2.4	2.0	1.7	1.5
38	Grain	1898	1831	1763	1695	1627	1559	1492	1424	1356	1288	1220
	Suppl.	102	169	237	305	373	441	508	576	644	712	780
	Lb. grain per 1 lb. suppl.	18.6	10.8	7.4	5.6	4.4	3.5	2.9	2.5	2.1	1.8	1.6
39	Grain	1902	1836	1770	1705	1639	1574	1508	1443	1377	1311	1246
	Suppl.	98	164	230	295	361	426	492	557	623	689	754
	Lb. grain per 1 lb. suppl.	19.4	11.2	7.7	5.8	4.5	3.7	3.1	2.6	2.2	1.9	1.7
40	Grain	1905	1841	1778	1714	1651	1587	1524	1460	1397	1333	1270
	Suppl.	95	159	222	286	349	413	476	540	603	667	730
	Lb. grain per 1 lb. suppl.	20.1	11.6	8.0	6.0	4.7	3.8	3.2	2.7	2.3	2.0	1.7
41	Grain	1908	1846	1785	1723	1662	1600	1538	1477	1415	1354	1292
	Suppl.	92	154	215	277	338	400	462	523	585	646	708
	Lb. grain per 1 lb. suppl.	20.7	12.0	8.3	6.2	4.9	4.0	3.3	2.8	2.4	2.1	1.8
42	Grain	1910	1851	1791	1731	1672	1612	1552	1493	1433	1373	1313
	Suppl.	90	149	209	269	328	388	448	507	567	627	687
	Lb. grain per 1 lb. suppl.	21.2	12.4	8.6	6.4	5.1	4.2	3.5	2.9	2.5	2.2	1.9
43	Grain	1913	1855	1797	1739	1681	1623	1565	1507	1449	1391	1333
	Suppl.	87	145	203	261	319	377	435	493	551	609	667
	Lb. grain per 1 lb. suppl.	22.0	12.8	8.9	6.7	5.3	4.3	3.6	3.1	2.6	2.3	2.0
44	Grain	1916	1859	1803	1746	1690	1634	1578	1521	1465	1408	1352
	Suppl.	84	141	197	254	310	366	422	479	535	592	648
	Lb. grain per 1 lb. suppl.	22.8	13.2	9.2	6.9	5.5	4.5	3.7	3.2	2.7	2.4	2.1
45	Grain	1918	1863	1808	1753	1699	1644	1589	1534	1479	1425	1370
	Suppl.	82	137	192	247	301	356	411	466	521	575	630
	Lb. grain per 1 lb. suppl.	23.4	13.6	9.4	7.1	5.6	4.6	3.9	3.3	2.8	2.5	2.2

1/ Corn-Supplement ratio

Amount of supplement of different percent protein needed with three fourths corn and one fourth oats to formulate rations of different levels of protein.

(3/4 Shelled Corn at 8.5 Percent Protein and 1/4 Oats at 12 Percent Protein)

Percent Protein in Supplement		Percent Protein in Total Ration										
		10	11	12	13	14	15	16	17	18	19	20
30	Grain (Lb)	1939	1842	1745	1648	1552	1455	1358	1261	1164	1067	1030
	Suppl. (Lb)	61	158	255	352	448	545	642	739	836	933	970
	Lb. Grain per 1 Lb. Suppl.1/	31.8	11.7	6.8	4.7	3.5	2.7	2.1	1.7	1.4	1.2	1.1
31	Grain	1942	1850	1757	1665	1572	1480	1387	1295	1202	1110	1017
	Suppl.	58	150	243	335	428	520	613	705	798	890	983
	Lb. Grain per 1 Lb. Suppl.	33.5	12.3	7.2	5.0	3.7	2.8	2.3	1.8	1.5	1.2	1.0
32	Grain	1945	1856	1768	1680	1591	1503	1414	1326	1238	1149	1061
	Suppl.	55	144	232	320	409	497	586	674	762	851	939
	Lb. Grain per 1 Lb. Suppl.	35.4	12.9	7.6	5.2	3.9	3.0	2.4	2.0	1.6	1.4	1.1
33	Grain	1947	1862	1778	1693	1608	1524	1439	1355	1270	1185	1100
	Suppl.	53	138	222	307	392	476	561	645	730	815	900
	Lb. Grain per 1 Lb. Suppl.	36.7	13.5	8.0	5.5	4.1	3.2	2.6	2.1	1.7	1.5	1.2
34	Grain	1949	1868	1787	1706	1624	1543	1462	1381	1300	1218	1137
	Suppl.	51	132	213	294	376	457	538	619	700	782	863
	Lb. Grain per 1 Lb. Suppl.	38.2	14.2	8.4	5.8	4.3	3.4	2.7	2.2	1.9	1.6	1.3
35	Grain	1951	1873	1795	1717	1639	1561	1483	1405	1327	1249	1171
	Suppl.	49	127	205	283	361	439	517	595	673	751	829
	Lb. Grain per 1 Lb. Suppl.	39.8	14.7	8.8	6.1	4.5	3.6	2.9	2.4	2.0	1.7	1.4
36	Grain	1953	1878	1803	1728	1653	1578	1502	1427	1352	1277	1202
	Suppl.	47	122	197	272	347	422	498	573	648	723	798
	Lb. Grain per 1 Lb. Suppl.	41.6	15.4	9.2	6.4	4.8	3.7	3.0	2.5	2.1	1.8	1.5
37	Grain	1955	1882	1810	1738	1665	1593	1520	1448	1376	1303	1231
	Suppl.	45	118	190	262	335	407	480	552	624	697	769
	Lb. Grain per 1 Lb. Suppl.	43.4	15.9	9.5	6.6	5.0	3.9	3.2	2.6	2.2	1.9	1.6
38	Grain	1956	1886	1817	1747	1677	1607	1537	1467	1397	1328	1258
	Suppl.	44	114	183	253	323	393	463	533	603	672	742
	Lb. Grain per 1 Lb. Suppl.	44.5	16.5	9.9	6.9	5.2	4.1	3.3	2.8	2.3	2.0	1.7
39	Grain	1958	1890	1823	1755	1688	1620	1553	1485	1418	1350	1283
	Suppl.	42	110	177	245	312	380	447	515	582	650	717
	Lb. Grain per 1 Lb. Suppl.	46.6	17.2	10.3	7.2	5.4	4.3	3.5	2.9	2.4	2.1	1.8
40	Grain	1959	1894	1829	1763	1698	1633	1567	1502	1437	1372	1306
	Suppl.	41	106	171	237	302	367	433	498	563	628	694
	Lb. Grain per 1 Lb. Suppl.	47.8	17.9	10.7	7.4	5.6	4.4	3.6	3.0	2.6	2.2	1.9
41	Grain	1960	1897	1834	1771	1708	1644	1581	1518	1455	1391	1328
	Suppl.	40	103	166	229	292	356	419	482	545	609	672
	Lb. Grain per 1 Lb. Suppl.	49.0	18.4	11.0	7.7	5.8	4.6	3.8	3.1	2.7	2.3	2.0
42	Grain	1962	1900	1839	1778	1716	1655	1594	1533	1471	1410	1349
	Suppl.	38	100	161	222	284	345	406	467	529	590	651
	Lb. Grain per 1 Lb. Suppl.	51.6	19.0	11.4	8.0	6.0	4.8	3.9	3.3	2.9	2.4	2.1
43	Grain	1963	1903	1844	1784	1725	1665	1606	1546	1487	1428	1368
	Suppl.	37	97	156	216	275	335	394	454	513	572	632
	Lb. Grain per 1 Lb. Suppl.	53.1	19.6	11.8	8.3	6.3	5.0	4.1	3.4	2.9	2.5	2.2
44	Grain	1964	1906	1848	1791	1733	1675	1617	1560	1502	1444	1386
	Suppl.	36	94	152	209	267	325	383	440	498	556	614
	Lb. Grain per 1 Lb. Suppl.	54.6	20.3	12.2	8.6	6.5	5.2	4.2	3.5	3.0	2.6	2.3
45	Grain	1965	1909	1853	1796	1740	1684	1628	1572	1516	1460	1404
	Suppl.	35	91	147	204	260	316	372	428	484	540	596
	Lb. Grain per 1 Lb. Suppl.	56.1	21.0	12.6	8.8	6.7	5.3	4.4	3.7	3.1	2.7	2.4

1/ Grain-Supplement Ratio.

Poultry Conference Slated in Pennsylvania

HARRISBURG, PA. — Poultrymen and allied industry men from throughout Pennsylvania are expected to attend the annual Summer Conference of the Pennsylvania Poultry Federation at University Park, Pa., June 18-19. The event is co-sponsored by the federation and the University of Pennsylvania department of poultry husbandry.

Featured during the two-day sessions will be educational programs, special luncheons, a tea and entertainment for the ladies, the traditional "Drumstick Golf Tournament" and the annual banquet at which the "1959 Poultryman of the Year" will be announced.

The first educational meeting is scheduled for 9 a.m., June 18, with Dr. Robert Bickford of Wirthmore Feeds, Inc., Waltham, Mass., speaking on "Feeding Chickens and Turkeys."

Panel Discussion

Also slated for June 18 is a panel discussion on "Started Pullet Program," to be moderated by Prof. Carl O. Dossin of the university, and talks by Linwood Smith, Allied Mills, Indianapolis, "Management Pointers for Turkeymen," and Dr. Glenn Bressler of the university, "New Poultry Housing Equipment."

During the afternoon on June 18 the program will include panel discussions on the future of the poultry industry and the Pennsylvania certified egg program, as well as an egg marketing presentation by R. M. Hendrickson of General Mills, Inc., Minneapolis. The annual business meeting will be held during the afternoon.

On June 19 the educational program will be devoted to poultry health, featuring talks by Dr. L. M. Skamser of American Cyanamid Co.; Dr. George Christie of Eastern States Farmers Exchange; Dr. Ralph Gentry of Pennsylvania State, and Dr. P. H. Seitz of the Pennsylvania Bureau of Animal Industry. All four speakers will participate in a panel discussion of poultry health pointers which will be moderated by Prof. E. H. Leuschner of the university.

Foreign-Born Target Of Egg Promotion

VINELAND, N.J.—An advertising and merchandising campaign designed to step up the consumption of New Jersey eggs among the foreign-born in Greater New York has been launched by the Jacob Rubinoff Co., here.

Eight foreign language newspapers and radio stations are being used in the promotion which is independent from the current marketing activities of the New Jersey Egg Promotion Council.

In addition, readers and listeners are being asked to write for a free copy of an egg recipe booklet.

The New York office of Nemarow Advertising Agency, Vineland, N.J., planned the promotion and is handling the campaign.

According to Edward G. Rubinoff, general manager of the poultry feed firm, "the one segment of the population that heretofore has not been the target of a direct approach on the extra values and low cost of New Jersey eggs has been the three million foreign born in metropolitan New York.

"Because of language barriers and other sociological problems, these consumers have not been made aware of the economical buy that eggs provide today," he said.

"The cows don't seem to care for that cheap feed we bought for 'em."

Stilbestrol Side Effects On Heifers Studied

AMES, IOWA—Whether stilbestrol supplementation of fattening heifers results in any undesirable side effects was studied in a recent experiment by Dr. Wise Burroughs and Prof. C. C. Culbertson at Iowa State College. Findings were reported in Iowa Farm Science, Iowa State College publication.

In other experiments stilbestrol implantation at the base of heifers' ears ended with many animals having prolapsed vaginas. This was contrary to earlier trials in which heifers fed supplements containing stilbestrol responded almost as well as steers with no undesirable after effects.

To reinvestigate this problem, nutritionists fed yearling heifers double amounts of stilbestrol (20 mg. daily per animal) for a period of 148 days. The double dose was intended primarily to further check the safety of feeding stilbestrol to heifers; it is still prohibited by federal food and drug regulations to feed more than 10 mg. daily.

As in earlier experiments, stilbestrol feeding paid off in faster and cheaper gains with good grading carcasses. Apparently, ear implants overdose heifers because a controlled day-to-day supply of stilbestrol is not possible as in feed supplementation, the scientists said.

Cobb Plans Expansion Of Southern Facilities

CONCORD, MASS.—A plan for the enlargement and reorganization of the plant facilities of Cobb's Pedigreed Chicks, Inc., in the South has been announced by Robert C. Cobb, president of the firm.

First step in the program of expanding facilities and stepping up sales and service in the area, he said, will be a consolidation of all present southern operations at Gainesville, Ga. This plant, opened in the fall of 1958, will expand its area of distribution in the South during the reorganization period, Mr. Cobb said.

Plans are also under way to add to its transportation fleet to "insure swift delivery of Cobb White Rock breeding stock throughout Georgia, Alabama, Mississippi and adjacent states," the president said. Production facilities will also be increased.

Concurrent with the centralization at Gainesville, Cobb will close its present plant at Jasper, Ala., pending a new distribution center to be relocated in the South.

A market and distribution survey is now being made to determine the most suitable location to replace the "now inadequate facilities" at Jasper. The announcement of the relocation of the Alabama plant will be made at a later date, Mr. Cobb said.

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Cuprous Iodide has been evaluated by the Armour Research Foundation and is patented for use by Morton (pat. No. 2,772,167). With Cuprous Iodide there's no need for a stabilizing additive. It is insoluble in water, reducing leach-out in pelletizing to a minimum. With Cuprous Iodide your iodine analysis is guarded at all times.

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Report Shows Delmarva's Competitive Position in the U.S. Broiler Industry

COLLEGE PARK, MD.—Delmarva was the nation's second largest broiler producing area in 1958, but its rate of development is falling behind that of southern states.

This was pointed out recently in a report, Competitive Positions of Major Broiler Areas, made jointly by the University of Maryland and the University of Delaware in cooperation with the Delmarva poultry industry.

Prepared by Harold Smith, Norman Helbacka and John Crothers of the University of Maryland College of Agriculture, the report is one of a series resulting from a study of the Delmarva poultry industry.

The authors' more complete data may be incorporated in an experiment station bulletin at a later date. The report points out that Georgia was first in total production in 1958 with 292 million birds, while Delmarva had a total production of 180.5 million. A look at the development of the industry since 1954, however, shows that Georgia, North Carolina, Alabama, Texas and Maine have had steady increases while Delmarva production increased only in the years 1956, 1957 and 1958. (See Table 1.)

Also reported were comparisons of average weights of birds, farm prices, feed margins, chick prices, farm wage rates, consumption and a comparison of broiler prices with those for cattle and hogs.

WEIGHTS—Maine and Delmarva produced a heavier bird than southern areas and received a higher farm price for it in 1958. Arkansas produced a lighter bird averaging 2.9 lb. and received 17.6¢ lb., while Maine's birds averaged 3.7 lb. and 19.4¢ lb. The report points out a continuous trend in all areas toward a heavier bird. In 1954, for example, four of the nine areas produced broilers averaging less than 3 lb. In 1957, only one —Arkansas—was producing a bird averaging under that figure.

BROILER-FEED RATIO—A study of Table 2 will show that the broiler-feed ratio during recent years has been generally in favor of the southern states. The report points out, however, that differences in feed ratios in major areas can be explained mainly by differences in broiler prices rather than discrepancies in feed prices. The ratio depends upon both broiler and feed prices and is not a good indicator of competitive position of the areas, the researchers said.

BROILER FEED MARGINS—Although feed ingredient costs were generally higher in Delmarva during the years covered in the report, published retail prices of broiler mash were very competitive with other major areas. (See Table 3.) Published reports showed Delmarva had one of the lowest feed prices, indicating that margins to the Delmarva feed manufacturer tended to be smaller.

VISIT PUERTO RICO—**Vernon Dawe (left), president, Dawe's Laboratories, Chicago, and Ray Fechtel, president, Southeastern Hatcheries, Atlanta, are shown in Santurce, Puerto Rico, where they attended the dedication of Molinos de Puerto Rico, the new plant of Nebraska Consolidated Mills Co.**

CHICK PRICES—Prices for chicks in Delmarva in 1958 averaged higher than competing areas. Areas having comparatively low chick prices were Georgia, Virginia and Alabama. Considerable month-to-month variation existed within and between major areas, the report said.

FARM WAGE RATES—Maine and Delmarva reported the highest farm wage rate and Alabama and Mississippi the lowest per hour in the study. Wages paid in northeast areas were practically double those paid in competing southern areas, the report said. Data on returns to growers in all areas reflected differences existing in wages paid. In some parts of the South, growers reported receiving as low as $20 per 1,000 birds as compared to $60 to $70 per 1,000 in some cases on the Delmarva peninsula. Similar differences also existed in wages paid by poultry processors in major areas.

BROILER PRICES RELATED TO CATTLE AND HOGS—While the farm prices of broilers have declined from 1952 to the present, cattle and hog prices have not followed a comparable pattern of decline. During this period, broiler prices have

TABLE 1. Volume and Percentage Change in Broiler Production, Broiler Areas, 1954-58

Broiler area	Volume produced 1954	1958	Per cent change
	—(thousand birds)—		
Alabama	47,739	130,024	172.4
North Carolina	58,349	134,185	130.0
Mississippi	40,308	85,424	111.9
Georgia	154,471	292,119	89.1
Maine	30,677	56,475	84.1
Arkansas	78,525	133,331	69.8
Texas	71,790	114,327	59.3
Delmarva	128,187	180,459	40.8
Virginia	59,332	62,879	6.0
Total	669,378	1,189,223	77.7

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For pigs up to 50 lbs., KREPRO supplies all fish, whey, and fermentation factors,* vitamins, antibiotics, and trace minerals — in amounts needed for fast starting and maximum feed efficiency. Yet KREPRO may actually **save you money** — it contains saccharine and thus can save up to $20. per ton on sweetener costs.

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Economically formulated, HOPRO provides all needed micronutrients, growth and fermentation factors*—for more and better lean-meat-type-hog production and reproduction. Available in three forms so that you can rotate antimicrobials for development of natural immunities and avoidance of drug resistance: HOPRO AB (contains penicillin and bacitracin); HOPRO 3N (contains 3-nitro-4-hydroxyphenylarsonic acid); and HOPRO R (no antimicrobial guarantee).

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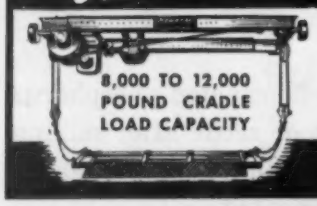

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TABLE 2. Broiler-Feed Ratio* in Selected Broiler States, 1953-57

Year	Georgia	Ark.	Texas	N.C.	Del.	Ala.	Md.	Va.	Miss.
1953	4.8	5.2	5.0	4.8	5.2	4.9	5.1	4.9	4.7
1954	3.9	4.5	4.3	4.2	4.4	4.1	4.3	4.2	3.9
1955	4.7	5.1	5.0	4.8	5.3	4.7	5.4	5.0	4.6
1956	3.6	4.0	3.8	3.8	4.1	3.7	4.1	3.8	3.7
1957	3.5	3.8	3.7	3.6	4.1	3.6	4.0	3.7	3.6

*Pounds of broiler mash equivalent in value to 1 lb. of broiler liveweight.
Source: "Broiler Statistics," AMS, USDA, August, 1958.

TABLE 3. Broiler Mash Prices in Major Broiler Areas, by Months, 1958

Average Price (Dollars) Paid Per 100 Lbs.

Month	Maine	Del.	Md.	Va.	N.C.	Ga.	Ala.	Miss.	Ark.	Texas
January	4.70	4.75	4.70	4.95	4.95	4.95	4.85	4.95	4.65	4.95
February	4.65	4.70	4.70	4.90	5.00	5.00	4.90	4.95	4.50	4.90
March	4.95	4.85	4.90	5.10	5.10	5.10	4.85	4.95	4.45	4.95
April	4.95	4.90	5.00	5.20	5.20	5.10	5.00	5.00	4.55	5.00
May	5.10	5.10	5.20	5.30	5.20	5.20	5.00	5.10	4.70	5.10
June	5.00	5.10	5.00	5.30	5.20	5.10	5.00	5.00	4.65	5.20
July	5.10	5.10	5.20	5.20	5.20	5.20	5.20	5.00	4.65	5.10
August	5.20	5.20	5.20	5.20	5.30	5.20	5.10	5.20	4.70	5.00
September	5.10	5.00	5.10	5.20	5.20	5.20	5.00	5.10	4.85	5.00
October	5.10	4.95	4.95	5.10	5.10	5.00	4.95	5.10	4.75	4.95
November	4.90	4.85	4.90	5.00	5.00	4.95	4.85	5.00	4.65	4.95
December	5.00	4.85	4.95	5.00	5.00	5.00	4.85	5.00	4.75	4.95
1958 Average	4.98	4.95	4.98	5.12	5.12	5.08	4.96	5.03	4.65	5.00

dropped 10¢ lb. Prices of red meats, on the other hand, have shown substantial increases in certain years of the period.

EFFICIENCY OF BROILER PRODUCTION—The time required for the production of 1 lb. of chicken was the same as that for round steak in 1955. The figure was 40 minutes per pound in each case. In 1958, less than one half as much labor time was required to produce chicken as compared to round steak (13 minutes and 29 minutes, respectively). "This is an excellent indicator of the improvement made in production efficiency by the poultry industry," the report said.

PRICE RELATED TO CONSUMPTION—Chicken consumption per capita has doubled while the farm price has decreased one third since 1952. Increased supplies available have depressed prices, thereby furnishing an important factor for increasing per capita consumption. Consumption in 1952 was 11.7 lb. per capita, and the price was 28.8¢. Consumption in 1958 was 21.7 lb. per capita and the price was 18.6¢. The minimum retail price has also been dropping with the increase in production. In 1955 the minimum retail price was 49¢ lb. It dropped to 39¢ in 1956, 29¢ in 1957 and 27¢ in 1958.

New Dog Food Tested

BATTLE CREEK, MICH. — Rally dog food, a new product by Gaines Research Kennels, is being test-marketed in the Battle Creek area by the Post division, General Foods Corp. Rally resulted after two years of research in dog food nutrition, conducted in research laboratories in Battle Creek and Kankakee, Ill., the company said.

Rice Replaces Corn in Turkey Feeding Trials

FAYETTEVILLE, ARK. — Results of a feeding trial at the Arkansas Agricultural Experiment Station indicated that rough rice is a satisfactory replacement for corn in turkey feed.

When the rough rice replaced corn in a turkey diet there was no significant alteration in body weight gain or in efficiency of feed utilization. There was usually an increase in rate of gain when the feed was pelleted.

The work was reported in Arkansas Farm Research, experiment station publication, by Dr. E. L. Stephenson, nutritionist; Douglas Hamm, and Leland Tollett, both graduate assistants.

The researchers pointed out that in recent years the amount of rough rice produced has been greater than the demand, and a sizable quantity has become available for animal feeds.

The only difference observed between the birds fed corn and those fed rice was a somewhat reduced amount of pigmentation in the skin and shanks of the birds fed rough rice.

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Appointed by St. Regis

NEW YORK—St. Regis Paper Co., New York, announces that Howard C. Peterson, Jr., who has been associated with the company's Kraft division, has been appointed to the new sales post of corporate account executive. In this capacity, he will work with major accounts of St. Regis to acquaint them more fully with the products offered by the company. Mr. Peterson, who will serve on the executive sales staff and report directly to Arch Carswell, executive vice president, sales and marketing, joined St. Regis in 1952 and has served in various executive sales positions with the company.

BUY ELEVATOR

DENNISON, MINN. — Robert Erickson, Dennison, and LeRoy Stadstad, Cannon Falls, Minn., have purchased the Farmers Elevator here. Mr. Stadstad will be manager. Mr. Erickson will continue in the grain trucking business.

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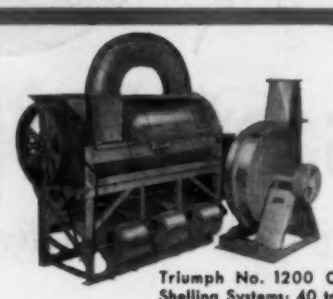

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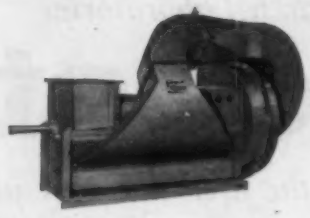

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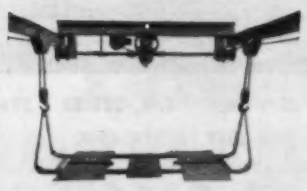

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There are many highly technical terms used in the missile industry today. Often a person will use one of these terms without clearly understanding its meaning. For this reason several such terms are defined below, so that there will be no further confusion when the subject of missiles is under discusion:

Missile: As good as a mile.

Rocket: (1) precision dancer at a N.Y. theater. (2) A confidence game. (3) Much noise.

Reactors: Concerning thespians.

Semi-conductor: Part-time streetcar jockey.

Element: A pachyderm.

Launcher: One who eats a midday meal.

Wake: Seven days in Ireland.

◆ ◆ ◆

Social tact is the art of making your guests feel at home, particularly when you really wish they were.

◆ ◆ ◆

Science tells us people are taller in the morning — but everyone knows some people who are higher at night.

◆ ◆ ◆

"That's guy's a psycho-ceramic."
"What's that?"
"A crackpot."

◆ ◆ ◆

Then there's the off-beat psychiatrist who advertises: "Satisfaction guaranteed or your mania back."

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The very small boy came home dejectedly from his first day at school. "Ain't goin' tomorrow," he sputtered.

"Why not, dear?" his mother asked.

"Well, I can't read, and I can't write, and the teacher won't let me talk, so what's the use?"

◆ ◆ ◆

An American boarded the train in Munich. The only other passenger in the compartment was an elderly woman. The American sat at the window, looked out and chewed gum. After a while the woman leaned over and said in a friendly tone, "It's nice of you to try to converse with me, but I'm stone deaf."

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Pamphlet Describes Brand Egg Program In North Carolina

CHARLOTTE, N.C.—In what is described as an effort to answer questions received regarding its brand egg marketing program, the Golden Gem organization of Charlotte recently published a pamphlet describing its aims and operation.

Major goals of the organization, according to Stephen E. Linger and Edmund Grohman of Golden Gem, are maintaining the independence of the egg producer and providing him a "fair margin of profit" by controlling the margin between wholesale and consumer prices and establishing wholesale prices to stores and eating establishments.

Golden Gem says it has plans for both a local and a national egg company. It was reported that 140,000 shares of stock are being subscribed. Golden Gem officials said $126,000 from the stock subscription will be used to operate the local egg company and $7,000 will be allotted for the national company. The remaining $7,000 is being used to organize the two proposed corporations. Additional funds will be placed in the national company and will belong to the stockholders.

The national company will be wholly owned by North Carolina investors, and only initial subscribers in Golden Gem of Charlotte, local distributing firm, will hold ownership in the national company, it was indicated.

"Creed" Outlined

A "creed" formulated for the guidance of the Golden Gem egg marketing program was outlined in the pamphlet distributed from the organization's headquarters in Charlotte. The creed includes these points:

"1. Maintain the independence of the egg producer.

"2. A paying price to the producer that will always allow a fair margin of profit.

"3. Cooperate with all segments of the egg industry.

"4. Perfection of quality, uniformity and taste.

"5. Advertising and promotions that will build consumer acceptance.

"6. Encourage egg consumption.

"7. Special advertising and promotions to children.

"8. Eliminate the useless transportation of eggs.

"9. A flexible merchandising program to homes, restaurants, institutions and stores.

"10. Expansion throughout the U.S., selling nearby production nearby with an efficient operation which will give returns to the North Carolina investors who make this program a reality."

It is Golden Gem's belief that "a producer must sell quality production nearby and ship the surplus to non-producing areas." Golden Gem organizers say they are interested mainly in marketing eggs near the place of production.

According to the pamphlet, as part of its program, Golden Gem plans to rent 20 trucks for the Charlotte program for once-a-week delivery of eggs. Golden Gem brand eggs will be delivered early in the morning and placed in small insulated protective boxes on porches and steps to keep the eggs from freezing, heating or being destroyed by pets. The delivery plan is, in many respects, like home delivery of milk.

Quality Regulation

It is Golden Gem's intention to establish its quality egg program through inspection and enforcement of regulations to maintain high standards, officials said. A central grading station is to be located in Charlotte. Others are to be located in large market areas as the program develops. The Charlotte operation will deliver in a 60-mile area. Insulated trucks will bring eggs back from central pickup points in production areas.

The Golden Gem budget calls for $14,400 to be spent during the first 90 days of operation from Charlotte. This figure represents 3½% of selling price, "an amount deemed necessary to promote a name brand product." Officials said the advertising and promotion budget will expand as the program progresses.

Said the pamphlet regarding egg prices: "New York prices do not represent true price value of eggs or what consumers are willing to pay. The New York market is affected by midwest eggs, the nation's chains and traders and their competitive offerings, and the fact that large producers hope to sell the New York or big city marketing, forgetting home markets.

"Minimum paying price should reflect a fair and equitable profit for the producer. This minimum should not be less than 35¢ for 24-ounce grade A, with all other weights paid proportionately, and always as much or more than the New York nearby price. Only through a program like Golden Gem can this minimum price to the producer be established."

Armour Announces Vet Appointment

CHICAGO—Dr. James H. Rosenberger has joined the veterinary technical department of the Armour Pharmaceutical Co. as assistant director, Dr. Mark Davenport, director, has announced.

Dr. J. H. Rosenberger

Dr. Rosenberger received his B.S. in agriculture summa cum laude at Ohio State University in 1948, M.S. in agriculture magna cum laude in 1951 and his D.V.M. summa cum laude at the same university in 1952.

He entered private partnership practice after graduation and located in Clinton, Wis., where he conducted an extensive general veterinary practice until his new appointment.

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Less Toxic—some chemicals have been developed that are too toxic except for adult animals. Korlan is safer . . . can be used on suckling and young animals.

Simple—single concentration for all livestock uses except ticks. Easily mixed with water to form a dip, spray or bait. Other formulations, Korlan 12E and 24E are available for use on backrubbers.

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CHASE BAGS
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Pelleted Barley Fed Beef Calves in Tests At Maryland Station

COLLEGE PARK, MD.—A recent feeding trial on beef calves at the University of Maryland has shown that there is no apparent advantage in feed efficiency in using pelleted barley as compared to feeding crimped barley.

However, this information is the result of only one feeding trial, run last winter, and as is the custom in such experiments, the trials must be repeated before definite conclusions can be drawn, points out Dr. J. E. Foster, head of the animal husbandry department of the university. Plans are to repeat the test with similar calves starting next fall, he added.

Research at the university has shown that the feeding value of barley for growing and fattening swine was materially improved by pelleting. "Since barley makes up an important part of the feed grains produced in this area, it would be most worthwhile to determine the value of pelleting it for beef cattle," Dr. Foster explained.

Used in the experiment were 56 Angus and Hereford calves from the University herds. These calves were weaned and started on feeding trials last October. There were two lots of 11 steers and four lots containing 8-9 heifers. The group of calves was divided into as uniform lots as possible according to breed, sire, age and weight. All lots received a ration of barley, alfalfa-grass hay, protein supplement and minerals. In one of the steer groups and in two of the heifer groups the barley was pelleted, while in the other groups it was crimped. The calves averaged eight months of age going on trial. At the start of the trial, the steers averaged 500 lb. and the heifers, 465 lb.

Gains in all six lots of calves were satisfactory, considering that they had been creep-fed. Average daily gain for the heifers was approximately 1.7 lb. to April 21, and 2.1 lb. for the steers to the last weigh day, April 21.

Dr. Foster pointed out that since the cost of pelleting the barley was $4 more per ton than crimping it, the cost of gains was greater in the pelleted groups. Indications from this one trial are that pelleting barley for finishing beef calves fed the above rations would not be a profitable procedure, he added.

Adds Breeding Farms

PLEASANT HILL, MO.—M. R. Irwin, president, Colonial Breeders Assn., a division of Colonial Poultry Farms, Inc., has announced the leasing of the ABC Poultry Farms layer units at Garden City, Mo. The ABC Farms, with 30,000-hen capacity, will be stocked with parent line breeders for Colonial True-Lines. Another farm recently added to the Colonial chain of breeding and research farms is a 15,000-capacity unit at Pleasant Grove, Cal. This makes a total of six breeding and research farms now being operated by Colonial.

Liquid Urea Fed With Roughages in Tests

FAYETTEVILLE, ARK. — Several experiments on supplementing low quality roughages with a liquid urea preparation for dairy heifers have been reviewed by Dr. O. H. Horton in Arkansas Farm Research, experiment station publication. He is a dairy scientist at Arkansas.

He pointed out that in 1956 and 1957 a liquid product composed of 80% cane molasses, 6% ethyl alcohol, 10% urea, 4% phosphoric acid and trace minerals was fed in experimental rations to dairy heifers at the Maine experiment station.

In 1956 cottonseed hulls were the roughage fed in a 120-day feeding trial to determine the effect of the liquid urea preparation on rate of gain and efficiency of gain. Grass hay of good quality was used as a control. In one of the cottonseed hull rations 3 lb. of liquid feed replaced 1 lb. of cottonseed meal. The two groups of animals on cottonseed hulls gained almost the same, but neither group gained as well as the control group. Thus, 3 lb. of the liquid mixture was about equal to 1 lb. of cottonseed meal.

Corn or sorghum silage was used as the sole roughage source in 1957. Twenty heifers were divided equally into four groups. One group, which received corn silage and liquid urea feed, was compared against a group receiving corn silage and cottonseed meal. Two other groups were fed in the same manner except that sorghum silage was used instead of corn silage. The urea feed was fed free-choice from buckets tied in stalls.

The heifers receiving cottonseed meal gained slightly more per day than those receiving the urea mixture. By allowing the animals to consume all of the urea mixture they desired, the pounds of protein equivalent per pound of gain were greater for the two groups receiving the urea supplement.

Results of these studies indicate that the urea-in-molasses preparation can be used as a protein supplement in larger amounts than one third of the total protein equivalent. Maximum consumption by some heifers totaled over 5 lb. per day, which represents more than ½ lb. of urea consumed a day. There were no noticeable abnormal physiological effects in either of the trials.

Dr. Horton said additional studies are in progress using other types of roughages. The urea mixture is being fed free-choice to dairy heifers in further experimental trials. The economic aspect, as well as methods of feeding the molasses mixture free-choice in tanks of different kinds, are also being studied.

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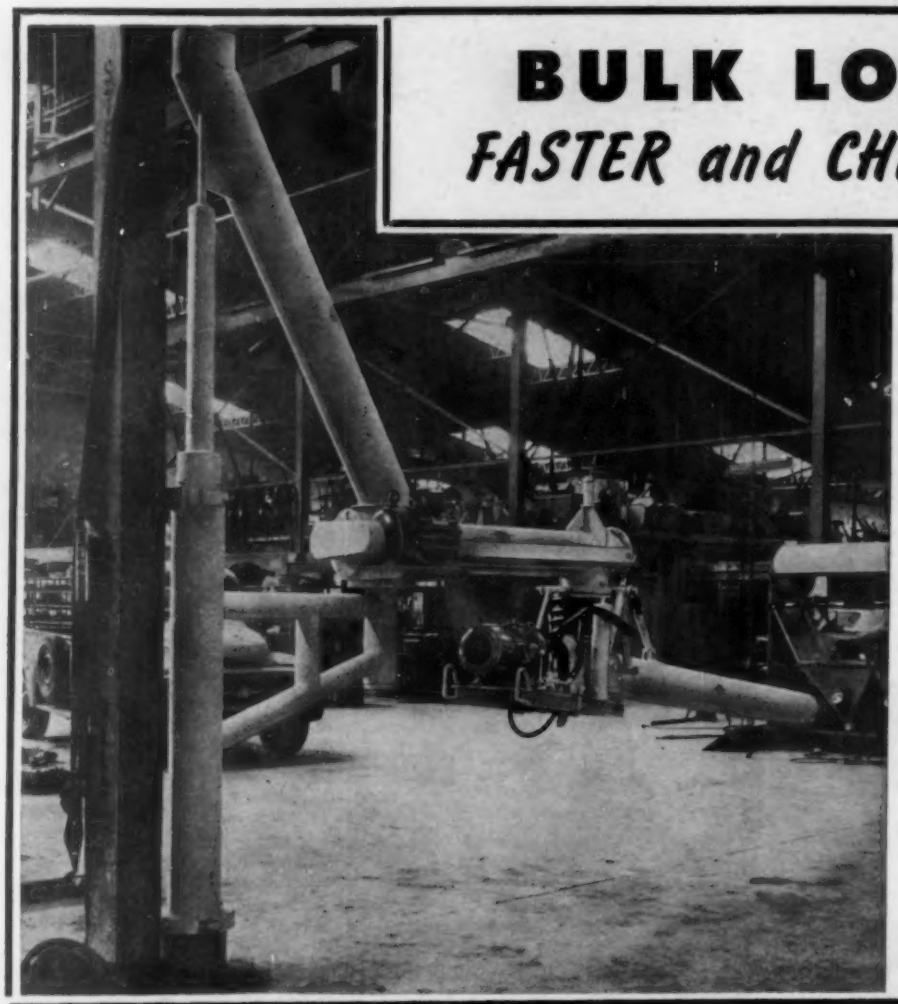

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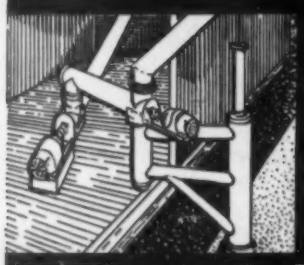

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Report Discusses Trace Minerals in Poultry Nutrition

COLLEGE PARK, MD.—Some of the functions of trace minerals in poultry nutrition were outlined recently by Edgar C. Quillan, graduate student in the poultry husbandry department at the University of Maryland.

Writing in "Information for the Maryland Poultryman," a publication of the Maryland Extension Service, Mr. Quillan discussed each of the essential trace minerals, and concluded that more work is necessary in this field to gain new information on essential trace mineral requirements. His report follows:

It has been shown that minerals constitute from 3 to 4% of the live weight of the fowl and about 10% of the whole egg. Although these percentage figures may not seem too high, they are large enough to make the nutritionist and those interested in poultry feeding and management concern themselves with the kind and amount of mineral matter present in feed.

H. D. Branion (1938) summed up the function of minerals in the body as follows:

1. Maintain the necessary osmotic pressure and surface tension in the various fluids of the body and so aid in absorption, excretion and secretion.

2. Regulation of the hydrogen ion concentration of the blood and tissues.

3. Aid in muscle and nerve reactions to stimuli.

4. Minerals are integral parts of living protoplasm.

5. Minerals constitute the greater part of bones, giving rigidity to the skeleton.

These functions demonstrate that minerals are extremely important to the physiological activities of any living organism, in addition to furnishing the framework of the organism.

The mineral elements which are recognized by many as essential nutrients for the domestic fowl are: sodium, potassium, calcium, magnesium, sulfur, phosphorus, chlorine, iron, iodine, manganese, copper, zinc, cobalt and molybdenum. Of this list of minerals, those which are thought to be required in minute quantities are referred to as "trace minerals" or "trace elements." The trace minerals are: Iron, copper, zinc, manganese, iodine, cobalt and molybdenum.

Because the trace minerals function in small quantities, they are believed to act as catalysts or as enzyme activators. Enzymatic catalysis is the best explanation of how a minute amount of a substance can produce large biological changes. McElroy and Nason (1956) state that with the exception of iodine, which is an essential component of thyroxin, and cobalt which is part of the vitamin B_{12} molecule, a known enzymatic function has been found for the remaining essential trace elements.

In a brief discussion of the essential trace minerals individually, which follows, the enzymatic function of the metals will be omitted.

Iron is required for the formation of hemoglobin, which is essential for the transport of oxygen and carbon dioxide by the blood. The chick has practically no store of iron from which additional hemoglobin can be built, and it has been demonstrated by placing chicks on a low iron diet that anemia can be produced very rapidly. The feeding of excess iron can cause a condition called "iron rickets," a condition with symptoms similar to the rickets caused by a deficiency or imbalance of calcium, phosphorus, or vitamin D.

Copper, like iron, is also required for the formation of hemoglobin. The domestic fowl requires copper for hematopoiesis (the formation and development of blood cells). Copper seems to be more concentrated in some tissues than others. The liver, heart, kidney, hair and brain usually have the highest concentrations. The liver is the main storage organ of the body for copper.

Cobalt has been shown by many workers to be a part of the vitamin B_{12} molecule. The chick is unable to synthesize vitamin B_{12}, but microorganisms in ruminants can synthesize this vitamin if cobalt is present. Vitamin B_{12} is required by the chick for normal growth and reproduction. It has also been shown that cobalt stimulates hematopoiesis. Manganese is important in avian nutrition for the prevention of perosis. A condition in chick embryos known as chondrodystrophy may result from a manganese deficiency in the maternal diet. A suboptimal intake of dietary manganese is associated with atoxia, retarded growth, decreased egg production and hatchability and reduced egg shell quality. Just how manganese functions in bone formation is not clear, but it is thought to be associated with phosphatase activity.

Practically all the iodine in the body is associated with the thyroid gland and thyroid hormones. A deficiency of iodine may cause the thyroid gland to be many times the normal size. The amount of iodine in the egg is highly dependent upon the iodine intake of the bird. Most of the iodine in the egg is contained in the yolk.

Zinc is important for the acid-base (pH) equilibrium of blood, the calcification of bone and in the formation of egg shells. These functions are related with the enzyme carbonic anhydrase with which zinc has a close association. Recently zinc has been shown to aid in the prevention of hock trouble in turkey poults. In some instances, zinc supplementation has resulted in greater gains in chicks and turkeys.

Some workers are now adding molybdenum to the list of essential trace elements. The Texas Station, among others, has reported on the growth promoting activities of molybdenum.

This article does not mention all of the functions of the trace minerals. It does show some of the dynamic effects these minerals have in the body. More work needs to be done in this field since the requirements of some of the essential trace minerals are unknown.

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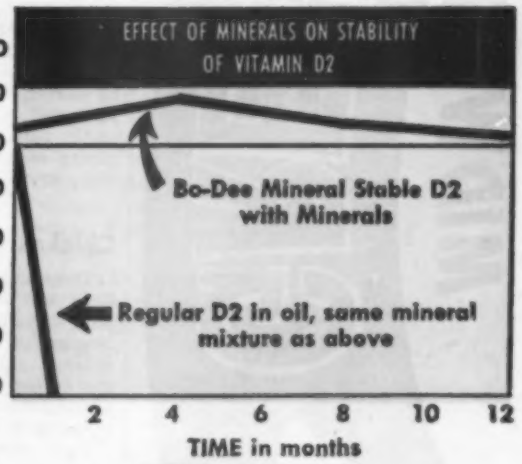

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IDEAS TO HELP YOUR CUSTOMERS

Emergency Crops

From the University of Minnesota come these tips on emergency crops:

Prof. William Hueg, extension agronomist, says soybeans should be harvested for best quality hay just as the pods are filling. For silage, beans should be in the soft dough stage when cut.

Oats can be seeded at 2½-3 bu. per acre in mid-June and grazed when 10-14 in. high, or cut for hay in the late milk stage. Oats should be cut for silage when in the early to mid-dough stage.

Forage sorghums should not be grazed, Prof. Hueg says, but they're okay for hay or silage.

◆

Coccidiosis Control

Present day drugs are a great help in preventing and controlling coccidiosis in chickens—but their effectiveness depends on how well the grower manages his flock.

Prof. J. W. Sicer, Purdue University extension poultry specialist, says carelessness in handling litter in the brooder house, for example, is an invitation to trouble even though a preventive drug is used in the mash.

As long as chickens are exposed to only comparatively small amounts of infection at a time, the build-up of resistance can keep ahead of trouble. But wet litter, especially if it becomes crusted over with droppings, and warmth create ideal conditions for rapid growth of coccidiosis infection in the litter. Prof. Sicer recommends keeping the litter deep, dry and loose. Waterers should be placed on wire-covered platforms, and litter should be stirred if it starts to crust over. Hydrated lime forked into the litter at the rate of 1 lb. per 10 sq. ft. and plenty of ventilation help keep the litter dry.

◆

Chicken House Cooling

Thousands of broilers and laying hens lost due to extreme summer heat in poultry houses prompted the Mississippi Agricultural Experiment Station to determine what effect cooling during high temperature periods would have on production and mortality rates of birds.

Test results showed there was no appreciable difference in an "air cooled" house over a house well ventilated by natural means, but it was pointed out that during a long period of extremely high temperatures some emergency or stand-by method of lowering the inside air temperature of the houses a few degrees might be desirable as a protection measure.

One of the houses in the test had walls and ceiling insulated with 5½ in. of wood shavings, and it had a ventilating fan with a time switch and thermostat. In order to get positive cooling, mechanical equipment was used when needed to maintain a constant temperature of approximately 70° F.

Natural ventilation and shading of the east and west walls were provided for the other two houses in the test. One of these so-called "conventional" houses had vent windows in the sides and a ridge type ventilator on the roof of galvanized metal. Except for the entrance door, the end walls were enclosed.

The third house, called the "open" house, had vent windows on all sides so that the entire wall area could be opened if necessary. In addition, it had a ridge-type ventilator and a grass-covered canopy to shade east and west walls from the sun. Roofing material on this house was felt paper over wire mesh painted with aluminum paint.

◆

Fresh Milk as 'Heater'

Heat from milk can reduce milkroom fuel costs.

Virginia Polytechnic Institute scientists have found that each day enough heat can be removed from cooling 200 gal. milk fresh from the cows to help heat the milkroom or to preheat 50 gal. milkroom wash water economically.

The practicality of this idea was shown by developing a system of pump, pipes, valves and controls which uses the heat given off by the condenser of the milk tank refrigeration unit to preheat water that can be stored in the tank of a conventional electric water heater.

In order to remove the source of heat from the room or because of space limitations, the unit is often placed outside the building. Cost of this extra equipment for preheating water is listed at about $175. And VPI engineers believe that in most areas the unit will pay for itself in about two years.

If room heating is desired, an air-cooled condenser may be connected parallel with the water-cooled system and controlled by solenoid valves. This adds $150-$200 to the cost.

◆

Pasture for Market Hogs

If the hog producer values his pasture in terms of its worth for hay or for use with other livestock, it doesn't pay him to put market hogs on pasture, says Prof. R. P. Forshaw, Ontario Agricultural College swine specialist.

"The aim in market production is to get pigs to market quickly on a small amount of feed, if possible," Prof. Forshaw says. "Pigs given pasture eat very little of it if fed a balanced ration. And if you try to force pigs to eat pasture by cutting the amount of supplement the feed carries, you will lengthen the feeding period and may get no net saving of feed."

How about pasture for sows?

Prof. Forshaw says during gestation and while nursing a litter the sow gets considerable good from pasture. "It provides exercise and the bulky feed satisfies the sow's appetite without providing too much energy. The sow has less tendency to become overfat. It is also a good way for the sow to protect itself against nutritional deficiency," the Canadian authority says.

NEW BRANCH OFFICE

STOCKTON, CAL.—Blair Erigero, the Pillsbury Co., has announced the opening of a branch office in Maxwell, Cal. Bob Hnath, formerly of the Stockton office, has been appointed in charge of the operations. "The move has been made in order to originate more grain from the Sacramento Valley, to better serve the trade," Mr. Erigero said.

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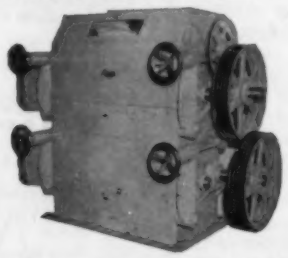

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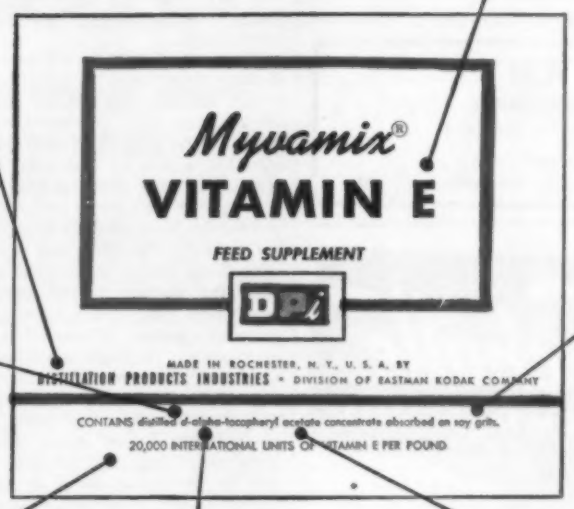
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Giveaway Programs Build Sales, Good-Will for Firm in Wisconsin

"This is not a one-way house. We like to sell to farmers and get their trade, but we also want them to feel we give back something extra during the year."

By Al P. Nelson
Feedstuffs Special Writer

STRESSES GIVEAWAY PROGRAMS—Giveaway programs for building good will and sales have been an effective means of promotion for the Mapleton (Wis.) Feed & Hardware. The giveaways boost store traffic and thus lead to sales. They are also often effective in collections. Located in a town of 91 persons, the firm, pictured above, has found it vital to continue promotional efforts. It is also active in community promotion. Promotion has resulted in steady growth, and the attractive exterior of the firm is shown following recent improvements.

This is the day and age of giveaways, so it is natural to find some giveaways in the feed business, too.

At the prosperous Mapleton (Wis.) Feed & Hardware, for example, Torger and Erling Torgerson, owners, use many business-building giveaways which make many of their customers happy.

A giveaway is different from a premium. The Torgersons don't use premiums, which are usually connected with the sale of merchandise in some stores—something extra for the customer when he buys. If he doesn't buy, he doesn't get the extra.

But in the case of the giveaway, as the Torgersons use it, the customer gets the "extra" as an appreciation for his past business, and they state that this gesture has helped them build their business considerably.

Advertising Budget

The Torgersons spend about $1,800 annually for advertising — considerably less than 1% on a gross of $300,000. Of that $1,800 these feed men spend about $15 weekly in newspaper advertising. They have no newspaper in their small town of 91 population, but advertise regularly every week in the Oconomowoc, Wis., Enterprise, chief weekly in the area.

The rest of the Torgerson advertising budget, roughly $1,000, goes for giveaway advertising, a community billboard, church and farm publication advertising and the like.

Like many feed mills, the Mapleton Feed & Hardware issues a calendar every year, and it's a handsome and handy one. It contains an easy-to-use record system for farm income and farm expense. The firm has many farmers who ask for these calendars every year.

Then, at Christmas, Mapleton Feed & Hardware likes to give customers a gift in appreciation of patronage. To get the gift, the customer must come to the store and call for it, and sign his name. In this way, the firm obtains a very fine mailing list, and it is easier for clerks to know which customers have already received gifts.

One year, the feed mill bought 500 household utility saws that could be used for cutting frozen food, metal and wood, and which were plated to prevent rusting. These saws bought in quantity through the firm's hardware and farm supply store cost about 95¢ each. The customers were well pleased with the saws. As soon as patrons heard what that giveaway was, they lost no time in coming to Mapleton Feed & Hardware to get theirs. And while there, many of the customers happened to remember some feed or farm supply item they needed, and made purchases. Others, looking at fine displays, made impulse purchases.

The Torgersons say that any event which boosts store traffic usually accounts for more sales eventually.

Another year the firm gave away a serrated kitchen knife which made a big hit with many farm wives. The knife cost the Torgersons 78¢ when bought in lots of 500.

The brothers have also given away such items as spatulas, key rings, billfolds and other items.

"We have our firm name on most of these products, and this means that customers think of us each time they spot these articles in and about their homes," says Torger Torgerson.

He also points out that his firm has a large stock of inexpensive ball point pens. These are given out judiciously to farmers who come to buy. For example, if a farmer comes into the store grumpy about the weather, about the government, his family or Mapleton Feed & Hardware products or service, the Torgersons usually manage to see that such a farmer gets a pen before he leaves the store. Such a small giveaway often changes the farmer's attitude about the state of the world.

Sometimes, when the Torgersons have some delinquent accounts, they send a collection letter and enclose one of these pens and say in a friendly way, "If you've misplaced your pen, here's one you can use to write out the check."

This stunt frequently brings in payments of accounts, sometimes with a humorous note attached.

"This is not a one-way house," says Torger Torgerson. "Sure, we like to sell to farmers and get their trade, but we also want them to feel that we give them back something extra during the year as well as selling them the good feeds they can use profitably on their farms."

Community Boosters

The Torgersons join with other merchants in their little community in boosting Mapleton via a couple of fine roadside signs. There are only four business concerns in this little community of 91 people, and yet all of them are represented on signs on farmers' barns which call Mapleton the "busiest little city in the U.S.A." In fact, these merchants sometimes publish a directional ad in the Oconomowoc Enterprise directing customers to the "busiest little city in the U.S.A." Milwaukee newspapers have published articles and photos of these signs, praising the community spirit and merchandising aggressiveness of Mapleton merchants.

The Torgersons purchased their present mill and store in 1937, and have kept a feed mill history scrapbook of their firm ever since. It is filled with pictures of the business at its various stages, including several remodeling projects. It also has newspaper ads, photos of open houses and the like.

"It is a very valuable book as far as we are concerned," state the Torgersons, "for it helps us check back on what we have done and aids us in planning for future expansion."

One large ad in the scrapbook announces the remodeling of the mill in 1953. At that time the firm added two three-ton Fairfield Hughes mixers, a Hughes 127 h.p. hammer mill, a Multi-Mist molasses mixer and hay grinding equipment. The firm also has a Kelly Duplex mixer and a Prater mixer. A Marion mixer is used almost exclusively by the firm to make premix for its line of Torgy's Feeds. The feed mill also handles Master Mix feeds.

A separate building, housing the offices of the firm and a hardware store, was erected in 1950. It helped the firm increase its volume considerably. During the summer season, the Torgersons also have a spraying crew with a few men who do a great deal of custom work, especially on sweet corn.

Bulk Delivery

"We are set up for bulk delivery with a Pamco unit," say the Torgersons, "and we are slowly converting many of our customers to this type of service."

The company does a large volume of seed business and also has seed cleaning equipment and a Pantogen seed treater. This winter, when the firm received a semi-load of Du Puits alfalfa seed from California, a sizable ad was published by the Torgersons celebrating this event, with copy under a picture saying:

"Mapleton—The busiest little city in the U.S.A., adds another achievement to its list of honors. Monday

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There's lots more to tell of course. So why not get the whole story? Just write for our catalog on the Economy Line.

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morning, Feb. 2, a straight semi-load of Northrup King 'Du Puits' alfalfa seed arrived at Mapleton Feed & Hardware. This was a direct shipment from Northrup King's seed producing area at Fresno, Cal. This is the first time in the Midwest that a shipment of all Du Puits alfalfa has been handled in such volume to one dealer. It was made possible by the sales efforts of the Torgerson brothers and their able resale man, Mr. Leander Rhodes, together with the outstanding acceptance of the farmers who have demanded this variety. Many have reported yields in excess of a ton per acre over other alfalfas grown on their farms.

"We of Mapleton Feed & Hardware wish to extend our sincere thanks to our many friends who have made this possible."

The Torgersons' advertising and giveaway policies have quite an effect on farmers. One day the brothers opened their mail and found that a customer had sent in this poem:

"The Song of the Happy Farmers"

If you farm for fun or profit,
If you farm with fork or pen,
Take a tip from one who does it,
Buy your feeds in Mapleton.

To the man who raises chickens,
Be it chicks or laying hens;
If you want them in condition,
Do as do all Torgy's friends.

If you have a bunch of White Face,
Or if it's Angus in your pens,
You still want profit, and in that case,
Go see Torgy; it's a trend.

If your line is dairy cattle,
And it's milk you wish to speed;
Get your truck and let 'er rattle,
Fill 'er up with Torgy's feeds.

Porkers too are no exception,
They do best on Torgy's line,
If in feeds you want perfection,
Get the best, get Torgy's kind.

By the "Swamp Augur."

Cotton Bag Sewing Contest Judges Named

MEMPHIS — Five leading homemaking authorities have been named judges for the 1959 National Cotton Bag Sewing Contest sponsored by the National Cotton Council and the Textile Bag Manufacturers Assn.

They are Helen H. Kelleher, home editor, Capper's Farmer; Bonnie Moore, women's editor, the Carolina Cooperator; Adaline Snellman, extension specialist in clothing, New York State College, Cornell University; Ruth Wallace, state supervisor of homemaking education, Jackson, Miss., and Ellen Yard, consultant, Wm. E. Wright & Sons Co., New York.

Cotton bag apparel, household items, toys, and other articles submitted by finalists representing 49 U.S. state and regional fairs will be judged at finals here Nov. 4. Two top national winners will receive expense-paid vacations in Hollywood the week of Nov. 15-21 and will share in valuable household appliances and other merchandise gifts. All articles submitted must be made from cotton sacks used for packaging feed, flour and other commodities.

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Wirthmore Provides New Hampshire Grant

DURHAM, N.H.—A grant to provide a graduate research assistantship in poultry disease work has been presented for the fifth year to the University of New Hampshire department of poultry science by Wirthmore Feeds, Inc., Waltham, Mass.

The assistants are assigned to research specialists, and take active part in scientific investigations while carrying on an intensified program of studies leading to an M.S. degree. Jeffrey Parke, North Carolina Agricultural and Technical College, has been awarded the assistantship this year, according to Dr. W. C. Skoglund, chairman of the poultry science department.

NEW MILL UNDER WAY

FERGUS FALLS, MINN. — Hall Feed Mills, Inc., has begun construction on a new warehouse and feed mill building here.

SELLIN' SAM — By Jim Zilverberg

"Okay, I'll try one sack!"

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U.S.I. FEED NEWS

Vol. VI ★ A SERIES FOR SCIENTISTS AND EXECUTIVES OF THE FEED MANUFACTURING INDUSTRY ★ No. 6

High Value of Penicillin Shown for Broiler Feed

When feed manufacturers and broiler growers consider the use of antibiotics in broiler rations, the greatest values have been reported under "high disease level" conditions. The yardsticks of value are increase in rate of gain, and favorable influence on feed conversion ratios and mortality.

Experiments indicate that even "inactivated" penicillin has a definite value in broiler feeds. A test compares a standard ration with the same feed containing standard procaine penicillin, penicillin inactivated by heat, and penicillin inactivated by alkali. All the test rations containing penicillin produced better weight gains and feed efficiency than the standard ration. The present price of procaine penicillin indicates that it should be valuable in most broiler rations.

Vitamin E Helps Poultry Use Vitamin A in Feed

Utilization by laying hens of vitamin A from feed is improved by addition of vitamin E to the ration, according to recent experiments. While there is some increase in vitamin A content of the eggs laid, a much greater increase is shown in storage of vitamin A in the liver.

WORTHWHILE READING

Liquid feeds as the "pipeline to profits" is the theme of a feature article appearing in the July, 1959 issue of Eastern Feed Merchant. It cites the experience of a medium-sized feed firm that has expanded its business in an important beef, dairy and poultry area by becoming a mixer-distributor of MOREA liquid feed for ruminant animals.

Future of Feed Improvements Now Involves Energy and Protein Sources

Advances Require New Knowledge of Our Present Feedstuffs

Recent summaries of the status of feed efficiency, particularly for poultry, point out the need for new knowledge of our major feed ingredients —the ingredients that provide energy and protein. Progress in recent years has been rapid in the field of vitamins, antibiotics, minerals and other additives to the basic feed ingredients. Today we need to devote our attention to the major ingredients. The mechanisms by which various energy sources interact and are affected by other feed ingredients are a fertile field for study.

A Major Cost of Feed

Look at the wholesale price of the contents of a bag of laying mash today. This hundred pounds of feed contains about 8¢ worth of vitamins, 10¢ worth of minerals, 80¢ worth of protein and $1.45 worth of energy. *Obviously, energy and protein provide the best opportunities for future improvements in feeding economy.* For the near future, more efficient use of our present energy and protein feedstuffs appears to be the most promising approach.

From vitamins to proteins, we have done much work in bettering poultry feeds. Now research is needed to find out more about the sources of energy.

Concentrated Energy

In recent years, high energy feeds have consistently proven their efficiency. Fiber is now being tried as a means of controlling feed intake. On self-feeding programs, animals eat enough to provide an optimum energy intake. The adjustment of protein to energy ratios for highest feed efficiency has also paid off well. Addition of various kinds of fat to feeds as economical, concentrated sources of energy has also become widespread. Yet the functions of these energy feedstuffs may be as complex as the functions of the various amino acids that make up our protein sources.

In studying protein for non-ruminant animals, we have found it important to maintain a correct balance of essential amino acids. Methionine, the first essential amino acid produced commercially, has proven profitable in feeds. Use of a variety of natural protein feedstuffs has enabled us to improve protein efficiency greatly.

The next step is to learn more about basic energy sources—the carbohydrates and fats. Other feed ingredients cost more per pound, but the bulk of the cost of feed is still for energy. Analysis of new findings about energy has a big potential for improving feed efficiency of all animals. Detailed study of energy feedstuffs deserves high priority today.

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Putting Research To Work

BY SPENCER H. MORRISON, PH.D., D. V. M.

Feeding Value and Activity of Dried Rumen Products

● L. D. Kamstra, P. R. Zimmer and L. B. Embry, South Dakota Agricultural Experiment Station; Journal of Animal Science, Vol. 18, No. 2, May, 1959, pp. 849-854.

ABSTRACT

Both in vitro artificial rumen technique experiments and feeding and digestion trials with wether lambs were used to evaluate the activity, effect on rate of gain, feed efficiency and digestibility of various dried rumen products.

The in vitro digestion comparisons with fresh rumen fluid showed no replacement value or additive benefits for the dried rumen products tested (B238 "Rufus" and "Rumenade"). Fresh rumen fluid was much superior as a source of rumen microorganisms, and the results indicated that the drying of the material even under conditions of low temperature and vacuum reduced the inherent cellulose digestion ability of fresh rumen fluid from 67.7% to less than 10.0% in the dried state. Also, feeding the dried product over a two-month period did not increase the plate colony count of fresh rumen inoculum from sheep via rumen cannula.

The results of two feeding and digestion trials showed no apparent benefit from the addition of the dried rumen products. Trial 1 was conducted in two phases—a high-concentrate phase and a low-concentrate one. The high-concentrate ration was 74.2% ground oats, 25% ground alfalfa hay and 0.8% bone meal and trace mineral salt mixture. The low-concentrate one consisted of 75% ground alfalfa hay, 24.2% ground oats and 0.8% bone meal and trace mineral salt mixture. One group of four individually confined wethers received the basal ration, while the other group of four received the same diet with enough dried rumen product in the concentrate portions of both the high and low-concentrate rations to supply 375 mg. per pound of final ration of the dried rumen material. The high-concentrate phase lasted for 56 days, while the low-concentrate phase was 32 days in length.

Trial 2 was designed to test the effect of the dried rumen product when sheep were fed a high-roughage ration of low quality at two levels of protein. The 7.4% protein diet contained 66.7% prairie hay, 15.2% corn cobs, 10.1% Car-Mo-Las (65 molasses dried on corn cob base), 4% bone meal, and 4% trace mineralized salt. The 12% protein ration contained 66.7% prairie hay, 10.8% corn cobs, 7.2% Car-Mo-Las, 9.7% soybean oil meal, 2.8% bone meal and 2.8% trace mineralized salt. The trial was conducted in similar manner to trial 1, except that two groups of four wethers were individually fed the basal low-protein diet for 28 days while two other groups were fed the same diet plus the dried rumen product ("Natural Rufus Concentrate"). After this period, the protein level was increased to 12% by the addition of soybean meal to the basal diet. During the high-protein phase of 28 days' length, one of the previous groups received the dried rumen product and one of the groups previously fed the dried rumen product received the basal ration.

It was expected that the lambs would lose weight on the low-protein part of trial 2 and thus test the dried rumen material under so-called "stress conditions." Actually, most of the lambs lost weight during this period, but the averages show that the lambs fed the basal ration had very slight weight gains, while those receiving the dried rumen product in addition had very slight weight losses, on the average. There was no significant effect on feed consumption, although there were some differences apparent in digestibility of various constituents of the diet. (Digestibilities of crude protein and ether extract were higher for the dried rumen product fed lambs.)

Increasing the protein level of the diet during the second phase of trial 2 increased the daily gains and improved the feed consumption. The rate of gain seemed to be more closely related to the gain of the previous period than to the presence or absence of the dried rumen product. Feed consumption was not affected by rumen product, and in this phase there were only small differences between digestibilities of various ration constituents.

COMMENT

Here is some further evidence of the general inadequacy of dried rumen materials in the hands of the college investigators so far to date. The work reported above was discussed in part by the authors at the 49th Annual Meeting of the American Society of Animal Production in 1957. Observations of various scientists at Cornell, Iowa, Ohio, Virginia and Purdue working with young calves under various conditions have resulted in the common opinion that either dried rumen products or fresh cud material was of no measurable value for dairy calves fed on milk or milk substitute diets.

Tucker et al. (1956) reported that under the conditions of their experiment dried rumen products did not stimulate the rumen flora of lambs which had been treated with chloramphenical. Dried preserved rumen material showed no in vitro cellulose digestion whereas fresh rumen inoculum caused digestion. Conrad and Hibbs et al. (1958) reported that results with cud inoculation of dairy calves fed all-pelleted high roughage mixtures were no better than un-

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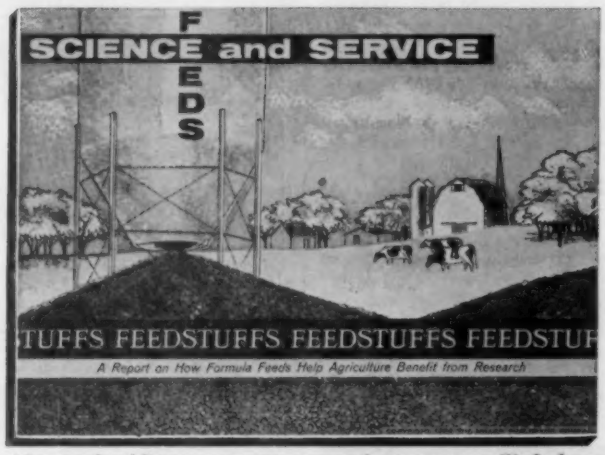
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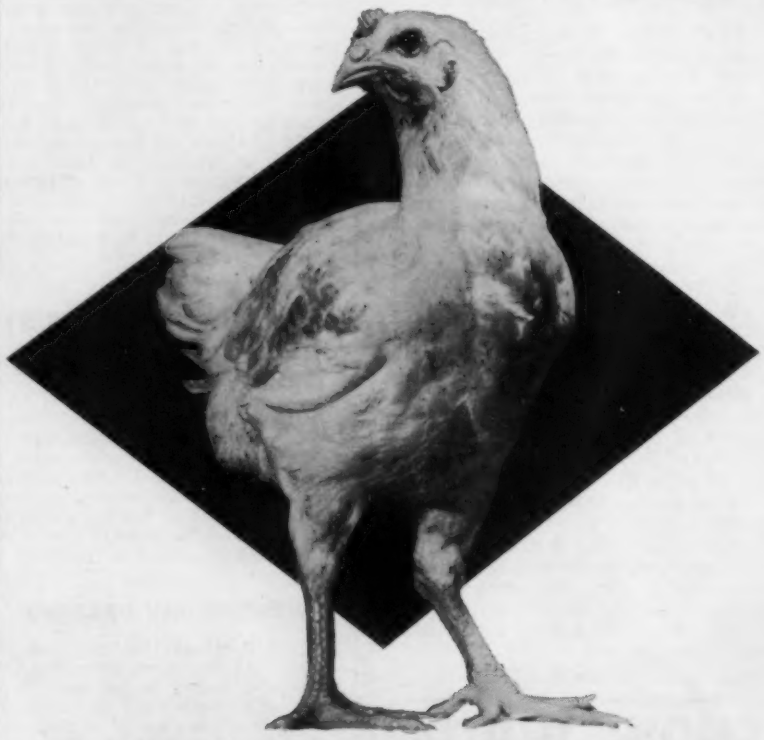

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SELF-FED CATTLE GAIN FASTER

URBANA, ILL.—Results of 13 research experiments in Midwest agricultural experiment stations compare the results of self-feeding and hand-feeding cattle. In these experiments self-fed cattle gained .13 lb. more a day, on the average, than hand-fed cattle, according to G. R. Carlisle, extension livestock specialist at the University of Illinois. The self-fed cattle sold for slightly more per pound, cost 26¢ more for feed per 100 lb. of gain and returned a net of 87¢ a head more than the hand-fed cattle. Mr. Carlisle pointed out that a saving in labor is another advantage of the self-feeder system not covered in the research.

inoculated calves although further work was indicated to be necessary before the question of cud inoculation effects on such diets could be fully answered.

On the other hand, there is a persistent group of veterinarians and feedlot owners in whose hands dried rumen products seem to have been of benefit in getting cattle on feed and who even claim pronounced gain responses from such dried rumen additives when fed during the entire fattening period. Veterinarians have treated rumen dysfunction with some degree of success by using fresh cud transplants from healthy donor animals—my own experience with dried materials has been very disappointing—and the results with fresh material extremely hard to evaluate! The whole trouble with such practical results is that no control groups of animals are very often available or used against which performance responses may be compared.

The Missouri group (Turner, 1956, and Pfander, 1956) has been the only college group who has ever advocated dried rumen materials to any extent; yet one of the products tested by the South Dakota group was the very product which was highly praised by Turner! Certainly confusing isn't it? My personal opinion, for what it is worth, is that these products as yet have little to recommend them in usual feeding practice when plenty of roughage is fed and normal management methods are used.

Booklet on Corn Gluten Feed, Meal Published

WASHINGTON — Corn Industries Research Foundation, Inc., Washington, announces the publication of a new booklet, "Corn Gluten Feed and Gluten Meal." This is the fourth volume of a series on products of the corn refining industry, the previous works being "Corn Starch," "Corn Syrups and Sugars" and "Corn Oil."

The new 36-page booklet is printed in two colors and illustrated with photographs. It discusses chiefly corn gluten feed and corn gluten meal, but includes data and information on other feeds produced by the corn wet-milling process, such as sweetened gluten feed, corn oil meal, and feeding corn molasses.

Chapters on the manufacture of these feeds, their nutritional properties and their use in livestock and poultry feeding are included. Methods of evaluating corn gluten feed and meal as ingredients of mixed rations are given. An analytical examination of corn wet-milled feeds, and a glossary of technical terms complete the text.

The formula feed industry has long known and used corn gluten feed and corn gluten meal as protein ingredients.

The booklet is available without charge, from the foundation at 1001 Connecticut Ave., N.W., Washington 6, D.C., or 3 E. 45th St., New York 17, N.Y.

New Pamco Plant Under Construction

OSKALOOSA, IOWA — Productive Acres Manufacturing Co., Keota, Iowa, manufacturer of bulk feed handling equipment, has announced construction of a new factory here which is to begin operations in late August or September.

The building is to be of insulated steel and of dimensions of 120 by 250 ft. An additional 1,400 sq. ft. will be provided for office space outside the main structure.

H. S. Palmer, president of Productive Acres (Pamco), said the new plant is necessary to handle increased production of Pamco bulk feed handling equipment. The Oskaloosa plant will make truck boxes, and will serve Iowa, Missouri, Illinois, Nebraska, Kansas, South Dakota and other midwestern states.

The building is going up in Oskaloosa's industrial park.

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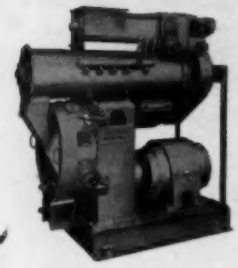

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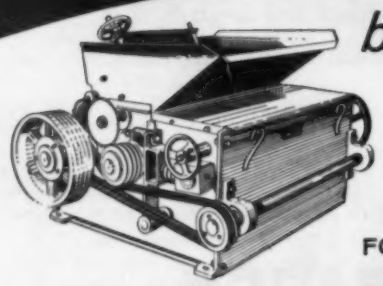

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BROWN FEED PLANT—This aerial view of the F. M. Brown's Sons, Inc., feed plant at Birdsboro, Pa., shows the filter for pneumatic reclaiming system on top (left) of the building. Also shown (left center) on the building is the filter for the unloading system. The conveying line runs from this filter to the six large storage silos at right. A switching station is used for the distribution of ingredients to the different silos.

New Handling System Boosts Mill Capacity

A new bulk handling system for ingredients has considerably stepped up output and efficiency at the F. M. Brown's Sons, Inc., feed plant at Birdsboro, Pa., according to Frank Brown, assistant manager.

Mr. Brown reports that converting to bulk handling with pneumatic conveying systems doubled production capacity, with no additional labor required; reduced handling costs $4 a ton; and solved the contamination problem because of the self-cleaning feature of the handling system.

The new setup involves two pneumatic handling systems. One of these handles all unloading of raw materials to storage, and the other reclaims from storage to process. Both the unloading system and the reclaiming system employ an axial flow, positive displacement rotary exhauster. Both are "Airveyor" units supplied by the Fuller Co., Castasauqua, Pa.

"Primary materials"—soybean meal, shelled corn, oats, etc.—arrive at the mill in 20-30 ton rail cars and in 15-ton trucks. One man to feed the nozzle on the flexible hose is the only labor required in this operation. The material is delivered 180 ft. to six new 110-ton capacity Harvestore silos at the rate of up to 12 tons an hour.

Unloading Versatility

Although most unloading is to these silos, a series of diverting valves make it possible to deliver the material direct to any of 20 mill bins located right in the mill head house. Eight of these bins have a capacity of 40 tons, four hold 10 tons and eight of them hold five tons.

With this unloading system there is an Airveyor filter, 4 ft. in diameter, with four compartments. One of these compartments is cut out of service at 2 min. intervals by means of a ⅓ h.p., 220-volt gearmotor. During this interval the filter bags are shaken, with the cleaning action of the bags augmented by the reversal of air through the cloth.

The second pneumatic system, explained Mr. Brown, is used to move materials from storage to processing. It transfers material from the silos to the bins in the mill head house at a capacity of up to 10 tons an hour. This involves a distance of 250-300 ft. horizontally, and 80 ft. vertically. Once the pneumatic equipment has been put into operation, no further labor is needed in the actual transfer.

INCOMING INGREDIENTS—A receiving scale weighs incoming ingredients in 500-lb. batches as material is unloaded by Airveyor pneumatic conveying suction system (rear) at the F. M. Brown's Sons, Inc., mill at Birdsboro, Pa.

AIR UNLOADING—One man only is required for the unloading operation at the F. M. Brown's Sons, Inc., mill at Birdsboro, Pa., since the company installed pneumatic handling systems.

Another advantage is that pneumatic systems are self-cleaning, eliminating contamination, Mr. Brown said.

Batch Mixing Material

Material for batch mixing is fed from the mill bins by air-operated slide gates through gravity downspouts to a 5,000-lb. capacity scale hopper. This scale then weighs out 4,000-lb. batches to the mixing equipment located directly beneath it.

Mixed batches are delivered through a system of elevators and screw conveyors either to the molasses mixer bin, pellet stock bin or mash scale bin. Over-all production capacity, working only one shift, is 100 tons a day.

The company has other installations at Shillington, Fleetwood and Sinking Spring, Pa. Until the new bulk handling systems were put into operation at Birdsboro, all of the plants were in production. Since production at Birdsboro has been greatly increased, the other three plants are now used for storage and distribution, Mr. Brown pointed out.

EXPENSIVE FEEDING

About 2.9% of the U.S. corn crop was lost because of European corn borer damage in 1958. Entomologists say each borer found on a plant cuts its production 3%.

"We do our best to deserve the business we get," says Elmer Moritz

"Service to customers has built our business"

E. H. Easter, representing a fertilizer company, makes a soil test for Rudy Kappler, a Hamel Cooperative Grain Company customer.

Mr. Moritz and Leonard Vieth, manager of the Carpenter store, say that this "Pig Parlor" has built business by demonstrating a modern method.

Mr. and Mrs. Moritz weigh up a load of grain for Check-R-Mixing at Carpenter.

Farmer Walter Schaake, one of the many grain bank users, expresses his satisfaction to Mr. Moritz.

—says Elmer Moritz, General Manager, Hamel Cooperative Grain Company

Service is the cornerstone in the business philosophy of Hamel Cooperative Grain Company, operating two Purina Service Centers, one at Hamel and the other at Carpenter, Illinois.

It is a cornerstone that was carved right, for around it the firm's annual volume has grown from $40,000, when Mr. Moritz became manager 15 years ago, to around $1,800,000 today.

Among the many activities of these two Service Centers are Check-R-Mixing . . . a grain bank . . . bulk and bag delivery . . . on-the-farm help with feeding and management problems. At both Centers farm folks find a full line of Purina Chows, Sanitation Products and related merchandise.

Hamel Cooperative Grain Company is another fine example of good customer service combined with excellent personnel to build business for a Store with the Checkerboard Sign.

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DESCRIPTIONS OF NEW AND IMPROVED PRODUCTS AND SERVICES PROVIDED BY MANUFACTURERS AND SUPPLIERS ARE PRESENTED IN BRIEF FORM. FOR ADDITIONAL INFORMATION, PLEASE USE THE ACCOMPANYING COUPON.

No. 7532—Attrition Mill Data Sheet

A data sheet giving information and specifications on attrition mills is being offered by the Munson Mill Machinery Co. The two basic types of

mills outlined on the sheet are Double Disc and Single Disc mills. Complete specifications are offered as to construction and performance. A copy of the sheet can be obtained by checking No. 7532 on the coupon and mailing to this publication.

No. 7529—Vertical Hammer Mill

A vertical hammer mill with an integral air classifier for fine grinding of soft, non-metallic materials in capacities of up to 5,000 lb. an hour, has been introduced by Sturtevant Mill Co. Called the Sturtevant Pulver-Mill, the unit features double-hammer grinding and deflector wall construction. As the revolving hammers crush the material between stationary wall hammers, the deflector wall bounces insufficiently ground material back into the grinding zone. Adjustable selector bars at the top of the housing enable selections of end product desired. Particle size is controlled by the number of selector bars and the rate of feed and vertical air flow. Six to 12 selector bars normally are used but extra blades are provided where needed. For details, check No. 7529 and mail.

No. 7530—Bulk Handling Bulletin

Ripco Air Systems, Inc., has prepared a bulletin which deals with various methods of bulk feed handling. Details covering vacuum systems for granular material handling are included. Copies of the bulletin, designated No. 359, can be obtained by checking No. 7530 on the coupon and mailing to this publication.

No. 7533—Bucket Elevator Bulletin

The availability of a technical bulletin describing aluminum, wood, steel and stainless steel bucket elevators has been announced by Sprout, Waldron & Co., Inc. Illustrated in Bulletin 22-D are a variety of heads, boots, buckets and belt or chain designs. A complete table of dimensions and specifications is also included. For copies, check No. 7533 on the coupon and mail to this publication.

No. 7540—Salt Box Designs

A free booklet containing six designs for salt and mineral feeding boxes is being offered by the International Salt Co. The designs, according to company literature, are easy to follow and each design features an itemized listing of all materials required. The designs include: a stationary feeding box for beef and dairy cattle; a portable feeding box for beef and dairy cattle; a stationary livestock feeding box designed to be attached to a wall; a feeding box for sheep; and two all-purpose feeding boxes designed for heavy wear. Copies of the booklet can be secured by checking No. 7540 on the coupon and mailing to this publication.

No. 7534—Feed Mill Bulletin

Prater Pulverizer Co. has published a bulletin which illustrates in full color a recent packaged feed mill installation. A large cut-away drawing shows Prater equipment built into the mill. Specifications and detailed drawings of the various units are included. For copies, check No. 7534 on the coupon and mail.

No. 7538—5-Ton Storage Bin

A 5-ton capacity bin has been developed by the Leach Manufacturing Co. The bin is divided into four compartments each with a roof door and

a draw-off gate. The bin is used for storing concentrates for hogs and poultry. The bottom draw gate of the bin permits complete emptying of any type of feed. For details, check No. 7538 on the coupon and mail to this publication.

No. 7535—Portable Mill, Mixer

A combination feed making and hauling unit called the "Rol-N-Mix" has been introduced by Peerless Equipment Co., Inc. The Rol-N-Mix is a three-in-one unit, providing a roller mill for preparation of rolled ear corn or small grain, a mixer to blend various grains and supplements and a portable, self-unloading wagon. All power for operating the unit is from one tractor, in the portable model. In the stationary model only one electric motor is needed to operate the mill,

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- ☐ No. 7511—Crop Liner
- ☐ No. 7527—Bulletin on Pellet Mill
- ☐ No. 7529—Vertical Hammer Mill
- ☐ No. 7530—Bulk Handling Bulletin
- ☐ No. 7531—Corn Sheller
- ☐ No. 7532—Attrition Mill Data Sheet
- ☐ No. 7533—Bucket Elevator Bulletin
- ☐ No. 7534—Feed Mill Bulletin
- ☐ No. 7535—Portable Mill, Mixer
- ☐ No. 7536—Bulk Feed Bin
- ☐ No. 7537—Package Monitor Checkweigher
- ☐ No. 7538—5-Ton Storage Bin
- ☐ No. 7539—Separator Bulletin
- ☐ No. 7540—Salt Box Designs
- ☐ No. 7541—Financing Program

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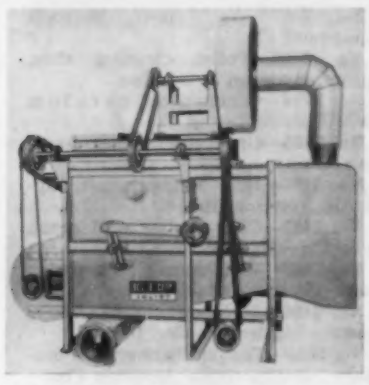
mixer and unloading auger. Rol-N-Mix units are available in sizes to fit any size operation, the company reported. For details, check No. 7535 on the coupon and mail.

No. 7531—Corn Sheller

Belle City Manufacturing Co., Inc., announces a medium-size corn sheller, called "Belle City No. 1," with a built-in cleaner. The unit is rated at 500 bu. an hour. The unit has parts which are interchangeable with the company's larger sheller, the "Big 4." It



has an extra large sieve area and uses standard sheaves and V-belts. The No. 1 has a low, square feeding hopper which permits feeding from front or side. A cleaning fan and shuck fan assure cleaner corn, the company stated. Heavy duty, roller type bearings are used throughout and the frame is made of channel and angle iron which is electrically welded. For details, check No. 7531 on the coupon and mail.

No. 7541—Financing, Leasing Program

Simonsen Manufacturing Co. announces a financing and leasing program available to feed and fertilizer dealers. The full line of Simonsen equipment, including feed delivery bodies, fertilizer spreaders and fertilizer mixer spreaders, is available on a lease arrangement. The plan allows a dealer to go into large-scale operations with no capital investment in equipment, the company stated. It also enables him to pre-determine his equipment costs for budgeting purposes—with all charges taken care of in one check per month. All such charges are tax deductible. Various programs are available under the leasing plan to give dealers a wide choice of units. Dealers may also lease feed delivery equipment with the option of buying. For full information, check No. 7541 on the coupon and mail.

No. 7511—Car Liner

A car liner called Steel-Corr has been introduced by Ford Carliner Division. The liner is comprised of three layers of liner board, two corrugated mediums with ¾ in. steel straps embedded in the material and is bonded with a special adhesive which the company says "adds moisture protection." The product is packaged in complete car kits and can be installed by two men in less than an hour. Each kit contains four

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Or, call your nearby Butler Builder. He'll be glad to give you complete details and prices on Butler flat storage buildings, the finest . . . lowest-cost safe storage you can buy. Or write directly to us for literature.

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corner posts, four end panels and 16 side panels. A large instruction sheet is included. Details can be secured by checking No. 7511 on the coupon and mailing.

No. 7527—Bulletin on Pellet Mill

The availability of a bulletin describing the Junior "Model 500-B" Pellet Ace has been announced by Sprout, Waldron & Co., Inc. The publication, designated Bulletin 165-B, contains a front and side view template drawing, a detailed table of specifications, a close-up photograph of a typical feeder-conditioner and photographs of the pellet mill with a hinged die casing, both open and closed. To obtain a copy, check No. 7527 on the coupon and mail to this publication.

No. 7539—Screen Separator Bulletin

A bulletin which describes vibrating screen separators and special applications in the feed processing industry has been announced by Southwestern Engineering Co. The bulletin has a section which reviews in detail how the separators solve screening problems for certain companies. A cross section drawing showing the various working parts of the unit is included. The bulletin can be obtained by checking No. 7539 on the coupon and mailing to this publication.

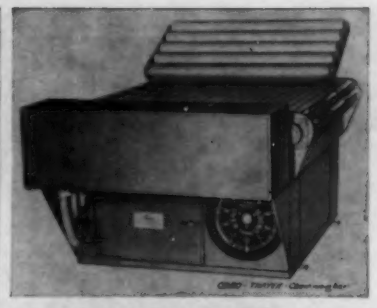
No. 7536—Bulk Feed Bin

A bulk feed bin with a "three-leg" design has been introduced by the Sioux Steel Co. The company states that this design provides more support even if the foundation is uneven

or if settling occurs. The bulk feed bin features the same construction as in the company's grain bins, cribs, steel buildings and other products. The bins can be purchased with or without augers. Tonnage capacity is from 3.9 to 10.6 tons. Augers can be powered with gas or electric motors. Check No. 7536 on the coupon and mail for details.

No. 7537—Package Monitor Checkweigher

A checkweighing unit, Model CDAO, to monitor feed packages, has



been introduced by the Thayer Scale Corp. Design features allow continuous checkweighing and weight indication of a variety of kinds and sizes of packages at speeds up to 20 units a minute, company literature said. The unit automatically accepts or rejects any set tolerance. Sound and marking devices for off weights are incorporated. For more information, check No. 7537 on the coupon and mail.

Also Available

The following new products have been described in previous issues of Feedstuffs and information about them may still be obtained by jotting the appropriate number on the coupon and forwarding it to Feedstuffs.

No. 7492—Wall chart, Burrows Equipment Co.
No. 7493—Pellet cleaning shoe, Sprout, Waldron & Co., Inc.
No. 7494 — Equipment catalog, Klein Manufacturing Co.
No. 7495—Grain drier series, Aeroglide Corp.
No. 7496—Bulk handling unit, Ripco Air Systems, Inc.
No. 7497—Corn sheller wall chart, Belle City Manufacturing Co.
No. 7498 — Moisture conversion chart, Seedburo Equipment Co.
No. 7499 — Recirculating fan, Sprout, Waldron & Co., Inc.
No. 7500—Temperature system brochures, Rolfes Grain Aeration Cos.
No. 7501—New drier size, Shanzer Manufacturing Co.
No. 7502—Crib, bin drier, Lakeshore Manufacturing Co.
No. 7503—Bulk concentrate carrier, Champion Portable Mill Co.
No. 7504—Bulk scale, Burrows Equipment Co.
No. 7505—Bulk weigh station, Ross Manufacturing Co.
No. 7506—Feed flavor file, Flavor Corporation of America.
No. 7507—Folder on cattle drug, Merck & Co., Inc.
No. 7508—Molasses heater literature, Sprout, Waldron & Co., Inc.
No. 7509—Aureomycin promotion, American Cyanamid Co.
No. 7510—Air vibrator, National Air Vibrator Co.
No. 7511—Car liner, Ford Carliner Division.
No. 7512—Coding system, Ultra-Violet Products, Inc.
No. 7513—Engineering change, Dorsey Trailers.
No. 7514—Plate magnet, Stearns Magnetic Products.
No. 7515—Slider belt conveyor, Strong-Scott Manufacturing Co.
No. 7516—Feed body, Simonsen Manufacturing Co.
No. 7517—Hog holding chute, Caswell Manufacturing Co.
No. 7518—Direct mail piece, Prater Pulverizer Co.
No. 7519—Unloading combination, Seedburo Equipment Co.
No. 7520—Galvanized nests, the National Ideal Co.
No. 7521—Pet diet supplement, Specifide, Inc.
No. 7522—Single laying nest, Bel Echo Metal Products Co.
No. 7523—Material study report, Schlumberger Well Surveying Corp.
No. 7524—Adjustable conveyor, Minneapolis Sewing Machine Co., Inc.
No. 7525—Animal feeding bulletin, National Cottonseed Products Assn.
No. 7526—Bin vibrator catalog, Syntron Co.
No. 7527—Bulletin on pellet mill, Sprout, Waldron & Co., Inc.
No. 7528—Feed fortification combination, Specifide, Inc.

Vitamin B-6 Effect On Broiler Rations Studied at Georgia

ATHENS, GA.—Results of experiments conducted to determine the effect of adding vitamin B_6 and other vitamins to practical broiler rations were reported recently by Dr. H. L. Fuller and W. S. Dunahoo, department of poultry husbandry, University of Georgia.

They found that in both battery brooders and in large scale floor pens, chicks receiving supplemental vitamin B_6 in corn-soy type rations "quite consistently" attained slightly heavier weights than those receiving the unsupplemented diets. Where it was possible to analyze the growth rate (battery pens only) the differences fell short of statistical significance, the researchers reported.

Supplementing the ration with para aminobenzoic acid, folic acid, and inositol collectively, or with biotin or with all four, failed to improve growth rate of broiler chicks, but when these four vitamins plus pyridoxine were added the chicks were slightly heavier. Growth data from the battery brooders again failed to show statistical significance in spite of their consistency.

Fish Solubles Supplement

Dr. Fuller and Mr. Dunahoo said supplementing these rations with condensed fish solubles or with fish solubles plus dried whey product improved growth rate and feed efficiency significantly, although the combination proved no more effective than the fish solubles alone.

In another trial, using a purified diet supplemented with 0, 1, 2, and 4 mg. pyridoxine HCl per pound, maximum growth and feed efficiency were obtained at the 1 mg. level (1.5 mg. per pound total).

On the basal diet, vitamin B_6 deficiency symptoms were observed as early as eight days of age, suggesting low levels of storage of this vitamin at time of hatch. In the same trial, supplementing a simplified corn-soy ration (assayed to contain 2.6 mg. vitamin B_6 per pound) with vitamin B_6 had no effect on growth rate, but since feed efficiency was better in the supplemented groups, the need for further work with this type of ration is indicated, the researchers said.

Infra-Red Heat Used To Dry Hay, Grain

COLLEGE STATION, TEXAS—Infra-red heat has been used successfully to dry hay and grain in tests at the Texas Agricultural Experiment Station, and its "potential appears unlimited," according to Dr. David W. Rosberg. He said infra-red heat can be used on grasses or legumes, or any other crop which needs surface moisture removed in a hurry.

In tests, insects in rice were killed during radiation exposure during the drying process, indicating that infra-red may overcome many insect problems in stored grain.

Dr. Rosberg also has been successful in controlling some plant diseases and insects with infra-red. He is working with various type units, both gas and electric, as sources of heat and to determine costs.

Infra-red heats only what it touches, making possible and practical the use of small heating units mounted on standard processing equipment, without having to heat an entire area to dry the product or control the disease.

HOLDS OPEN HOUSE

OWATONNA, MINN. — Owatonna Elevator Co. capped 10 months of building and remodeling recently with an open house for area residents. Numerous changes were made in the feed department and a new concrete elevator was constructed. The firm changed its name a year ago from that of the Farmers Elevator & Mercantile Co.

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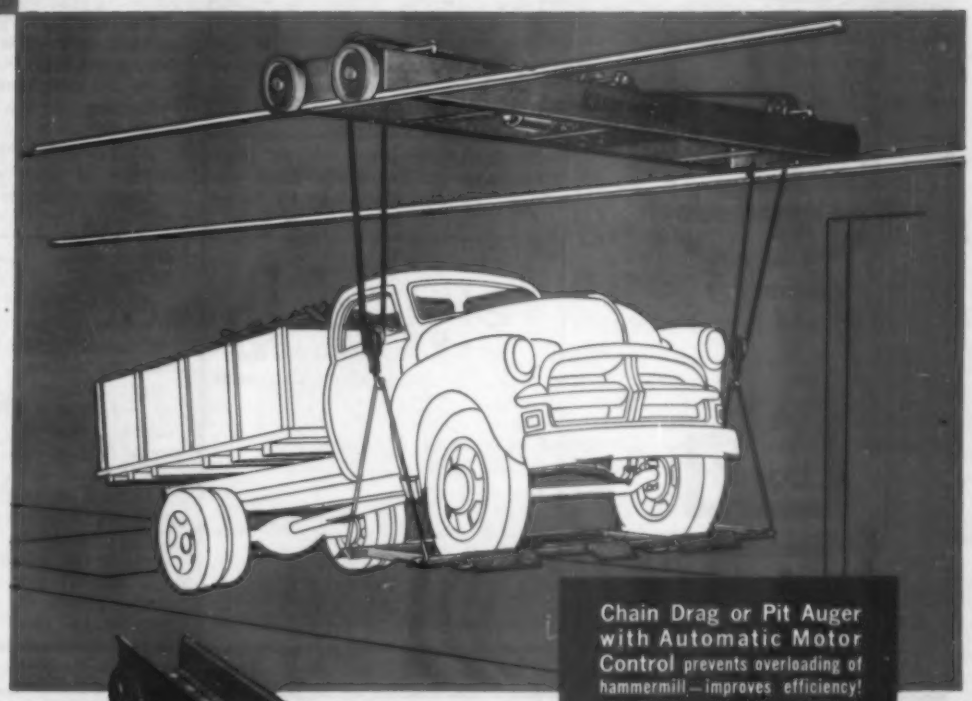

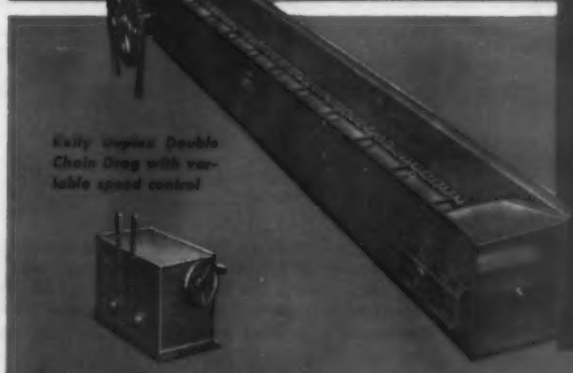

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☐ Bucket Elevator
☐ Corn Cracker-Regulator
☐ Corn Sheller with Blowers
☐ Regular Corn Sheller
☐ Pitless Corn Sheller
☐ Combined Sheller-Cleaner
☐ Gyrating Cleaner
☐ Corn Scalper
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How the 'Feed Grain Bank' Works

"Probably the most important item in operating a successful grain bank is accurate accounts."

By William J. Henebry
Manager, Monticello (Ill.) Grain Co.

EDITOR'S NOTE: This article by William J. Henebry, manager, Monticello (Ill.) Grain Co., was initially presented as a talk at the recent Grain Dealers Management Conference on the campus of the University of Illinois. Mr. Henebry draws from his experience with the feed grain bank in central Illinois to discuss its advantages and problems. He believes that accurate accounts are of prime importance to successful operation of a grain bank.

"Feed grain bank" has attracted a great deal of attention in the country feed business in the past year. This comes somewhat as a surprise to me, in as much as we have been doing it for a number of years and I assumed that most companies had been carrying on some form of activity along these lines. If you have recently gone into, or if you are anticipating the inauguration of such an operation, may I impress upon you that you should take a good look at the whole picture before getting into feed grain bank.

The operation of the grain bank has some definite advantages, such as holding the feeder closer to your organization for his service and supply of concentrates, thus a more steady customer and less susceptible to high-pressure, in-and-out competitors. It tends to spread your mill work, to get the maximum production with a minimum of labor. The bank can further help in that you can be sure the feeder will have a correct ration, thus a more efficient livestock program—making a more prosperous and better satisfied customer.

The feed bank is not without problems, however. There are those who will try to take advantage by "overdrafts" on their grain at seasons of high prices wanting to replace it at seasons of low prices. This is a sure way to go broke. Others may be trying to get some cheap storage until after harvest lows have passed. Knowing your customer, and his clear understanding of your method of operation, will save many headaches. Set up your policy and stick to it—same for all! If we don't stand for something, we are apt to fall for anything.

It also should be understood that storage of feed grains can become burdensome unless you have adequate storage space. The feed bank operator in some cases has been known to sell cash grain delivered for feed, covering it on the futures market. This can be extremely dangerous, especially at harvest time when there is a great spread between the cash and futures. The closing of the basis between cash and futures three to six months hence can be disastrous.

May I also impress upon you that if you are storing grain for feed purposes you have the same liability under the law as you would have in storing any other grain. Thus, if your feed grain liability is 30,000 bu. of corn, you must have on hand 30,000 bu. of corn, which does not mean a balance liability considering those that may be short but a total liability of those that are not short.

About two weeks ago, I spent some time in Washington conferring with Carl Miller, director of the Federal Grain Warehouse Division, and Mr. Wishmire of the Indianapolis branch, regarding the handling of grain bank grain as it pertains to companies licensed by the federal government. At the present time, the director is willing to go along with this type of operation if adequate and complete up-to-the-minute records are kept and

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GRAIN BANK STATEMENT

DATE	REFERENCE	CORN IN	CORN OUT ELEV.	CORN OUT MILL	CORN BALANCE	OATS IN	OATS OUT ELEV.	OATS OUT MILL	OATS BALANCE
Feb 13 59					34,580				5,405
Feb 13 59				200	34,380			200	5,205
Feb. 14 59		28,000			62,380	6,400			11,605
Feb 14 59				500	61,880			500	11,105
Feb 15 59			1,890		59,990				11,105
Feb 15 59			2,520		57,470				11,105
Feb 16 59					57,470		840		10,265

FORM "A"—Tabulation such as this has been suggested for grain bank accounting by William J. Henebry, manager, Monticello (Ill.) Grain Co. He said he knows of no regular form such as this on the market, but noted that a grain bank operator's present supplier may be able to custom-print them. Mr. Henebry said all his grain is handled in pounds in as much as all feed mixes are on a hundredweight basis. "Converting from bushels to pounds at the beginning simplifies posting," he said.

Grain Bank Control

DATE	REFERENCE	CORN IN	CORN OUT ELEV	CORN OUT MILL	CORN BALANCE	OATS IN	OATS OUT ELEV	OATS OUT MILL	OATS BALANCE
Feb 23 59					1,719,186				1,081,713
Feb 23 59		33,600	9,660	16,010	1,727,116		840	2,970	1,077,903
Feb 23 59			10,970	10,480	1,705,666			5,870	1,072,033
Feb 24 59		315	14,110	21,760	1,670,111	3,300		4,390	1,070,943
Feb 24 59		14,980	5,490	6,120	1,673,481		800	4,075	1,066,068
Feb 25 59		2,515	11,700	16,950	1,647,346	11,200		5,855	1,071,413
Feb 25 59		7,230	17,110	8,575	1,628,891			6,040	1,065,373
Feb 26 59		1,220	9,770	4,215	1,616,126		720	9,790	1,054,863

FORM "B"—This grain bank control sheet is like the one used by William J. Henebry, author of this article, who says the control account is indispensable for efficient operation. Its actual measurements are (including top and bottom margins) 10 in. wide and 11 in. deep. Mr. Henebry considers it extremely important to record all grain going from the elevator to the feed mill on a form such as this. The difference between the grain moved from the elevator to the mill and that taken out of the mill in customers' mixes is the amount of grain sold to the mill at the end of the day, week or month.

available to the examiner, and if adequate stocks of grain are on hand in total to cover all liabilities including grain bank grain.

To my knowledge, as yet, the state of Illinois has not made any inquiry into the grain bank operation by those houses that hold state warehouse license, but you can be sure they will in the not too distant future—and they should for the protection of both the operator and the feeder.

If you are operating any such facilities without either state or federal warehouse license you are strictly outside the law and asking for trouble.

Sampling and Grading

It is highly important that all grain delivered for feed purposes be properly sampled and graded, as you will be expected to supply a good grade of grain in the customer's mix. If a lower grade is delivered by the feeder he should pay the difference in grade between that which he delivers and that to be used in his feed.

If any appreciable quantities of grain are stored for feed purposes the conditioning of such grain is an important factor. If a grain drier is available all grain delivered for feed purposes should be dried to storable moisture content. The feeder should be charged with drying costs and should stand the shrinkage.

Example: If Pete Smith delivers 1,000 bu. of 20% moisture corn he should be charged not only for drying it to 13.5% or a reduction of 6.5% moisture, but also he would have a shrinkage of 7.6%, thus leaving him 924 bu. of feed corn.

If a grain drier is not available, a shrinkage factor should be arrived at just the same, as you will be continually replacing higher moisture corn with drier corn. This shrinkage must be taken into consideration or the grain bank operator will wind up the year with tremendous shortages in his inventory.

Community Influence

The community in which your business is located will govern the amount of space required by individual feeders. Also, the storage capacity of your own establishment will be a limiting factor in the amount of space allocated to each individual.

It is well to spend some time with the individual feeder in computing his total feed requirements and to have him deliver his grain at various times if this is possible. However, in the surplus cash grain areas where feeders expect to purchase corn at harvest time at a low price, this becomes another problem.

It seems these problems can only be solved in the community in which you are located. Storage space in these days is a valuable commodity and care should be taken that in your eagerness to accommodate your feeder customer you are not taking money out of the other pocket.

Accurate Accounts

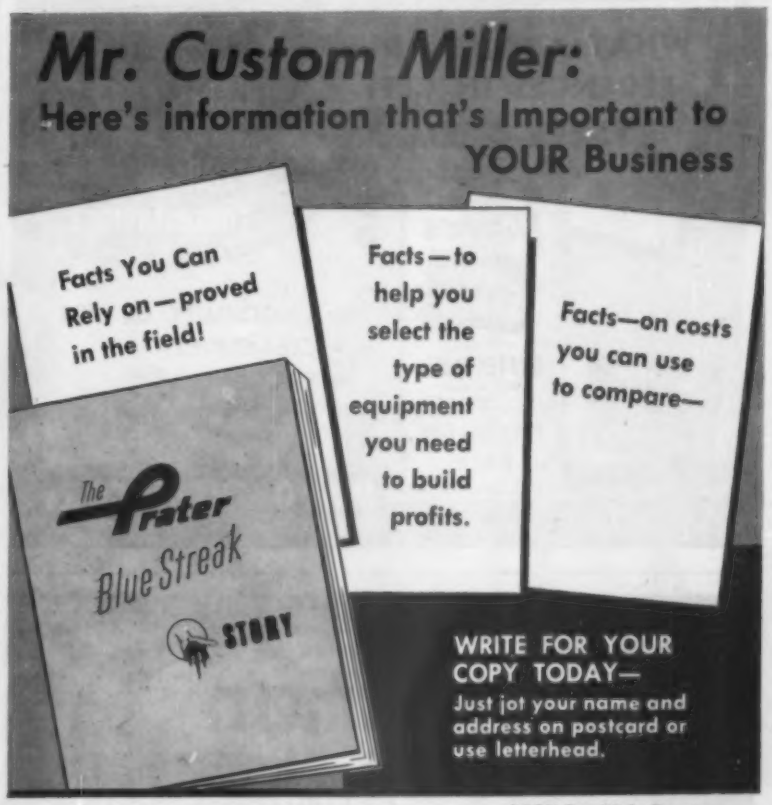
Probably the most important item in operating a successful grain bank is accurate accounts. The individual account is important to you and to the feeder. This can be done either by machine operation (see form "A") or by hand.

For hand accounting the forms should be ruled. You will note that all grain is handled in pounds in as much as all feed mixes are on a hundredweight basis. Converting from bushels to pounds at the beginning simplifies posting.

For your most efficient operation the control account is indispensable. This is particularly true when the establishment is both a grain elevator and a feed mill. It is extremely important to your grain operation that all grain going from the elevator to the feed mill is accurately accounted for (form "B"). The difference between the grain taken from the elevator to the mill and that taken out of the mill in customers' mixes is the amount of grain sold to the mill at the end of the day, week or month.

We cannot advise as to any set charges for grain bank handling because of the wide variation of customs, etc., of various areas throughout the Midwest. We would like to say, however, that you must establish some sort of charge for this service.

There is no regular set of forms on the market (that we know of) for this type of operation. However, your present supplier will be more than glad to print them for you in the way most adaptable to your present accounting system. If you are already doing your accounting by machine, you may need an additional bar for your machine.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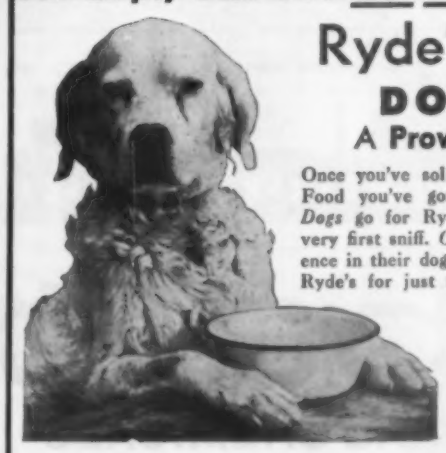
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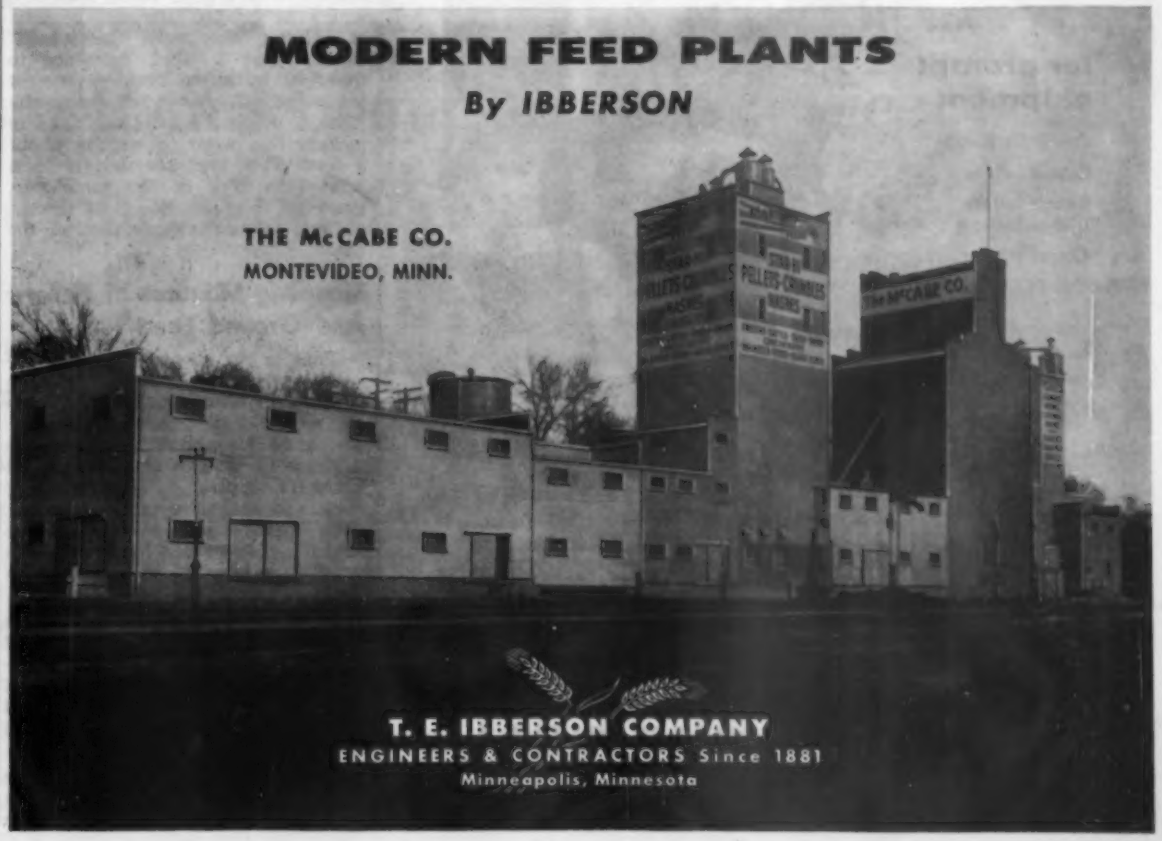

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FEED CONTROL COMMENT

By BRUCE POUNDSTONE
Secretary, Association of American Feed Control Officials
Kentucky Agricultural Experiment Station, Lexington

Guarantee Amino Acids in Percent or Mg. Per Lb.?

The National Research Council gives its recommended nutrient allowances for amino acids in terms of percentage. This procedure should be followed in labeling.

The appropriate guarantee, therefore, for an amino acid in a feed is in per cent.

How About Guaranteeing Antibiotics?

Antibiotics are to be expressed in grams per pound. This may also be expressed in grams per ton. Percentage guarantees of antibiotics are not acceptable.

Grams per pound must be shown, and in addition grams per ton may also be shown if the manufacturer desires.

Printing Brand Names

Feed control officials usually insist that the type used in printing the entire name of a feed on labels be uniform in size. This may not be quite so artistic, but at least it avoids giving printing prominence to different features of the name. Occasionally a manufacturer will propose printing his brand name and some other feature in very bold type and the rest of the name in smaller type, sometimes much smaller.

A label was reviewed recently for "Pulverized Oats with Ground Mixed Screenings." The first words in the name were printed in bold type and the last part of the name having to do with screenings was in much smaller type. Such printing will invariably result in adverse criticism and non-acceptance on the part of a control official.

An exception is the word "medicated" on a type 1 label. Although somewhat smaller type may be used in printing the word "medicated" on the type 1 label, reference to the feed by name requires use of the word. Confusion often results when a dealer or salesman fails to include this word in writing about a feed. This suggests that if it is printed in type of the same size, there is more likelihood of recognizing it as an integral part of the name.

Sampling Mixtures of Pellets And Ground Feed

What is the proper procedure for sampling dairy feed consisting of a mixture of pellets and meal or flakes and meal? This subject has been under study for several years by the Association of Official Agricultural Chemists. Several different types of metal probes have been tried but none of them give as good results as taking a sample by hand. (The hand is referred to by some as the "pelican" sampler.)

To secure a sample, the hand is worked into the feed as far as it will go and remove a handful. Such handfuls may be combined from several bags if a composite sample is desired or separate handfuls may be studied if bag to bag variation is of interest.

A product where the particle size varies as much as in the case of a mixture of pellets and meal may present a problem of thorough and uniform mixing. Unless such a product is uniformly mixed, it is impossible to get a "representative" sample. This is pointed out as important in interpreting the data gained from any sampling procedure.

Segregation, where particle size varies widely, may also be a problem in handling such mixtures after mixing both within the plant and after a product is bagged. One mixer of a dairy feed made of pellets and ground feed was elevating the final product to a storage bin located several feet above the delivery point for bagging. In bagging, the feed dropped down a chute above the bags where the flow was directed to first one side and then the other depending upon which bag was being filled. The feed, traveling rapidly, struck the divider and separated the pellets from the ground feed as they bounced or ricocheted farther to one side. The result was one side of the bag contained ground feed and the other pellets. The value of mixing was completely lost.

Likewise, some segregation may take place in handling bagged goods if the feed is packed loosely and the bags are handled in such a way as to encourage segregation. The way the bags have been handled should be observed in securing a sample of such mixtures.

Flax Institute Planned Nov. 19-20 in Fargo

MINNEAPOLIS — The Flax Institute's 29th annual fall convention, including for the first time a production school for farmers and county agents, will be held Nov. 19-20 in Fargo, N.D.

The production school will be moderated by Dr. J. O. Culbertson, director of oilseeds and industrial crops research at the U.S. Department of Agriculture. The school will include production research reports by USDA and agricultural college agronomists, discussions of feed and paint industry flax research programs, and question-and-answer sessions in which growers will receive advice regarding specific on-farm problems.

The first day of the convention will be devoted to a technical committee meeting, according to Charles E. Morris, secretary of the flax development committee, sponsor of the Flax Institute. During this meeting representatives from area agricultural schools will meet to review present flax research programs and to plan new projects.

Swine Bulletin

COLLEGE STATION, TEXAS—Information on how to produce meat-type hogs has been released in a bulletin from the Texas Agricultural Extension Service.

The author, T. D. Tanksley, extension animal husbandman, discusses the different programs hog producers can follow to determine the best breeding animals to use for highest meat production; selecting gilts; programs for both the purebred and the commercial producer, and how and when to probe for backfat.

Copies of the bulletin are available from the Agricultural Information Office, College Station, Texas. It is called "Selecting Meatier Hogs," and is bulletin B-922.

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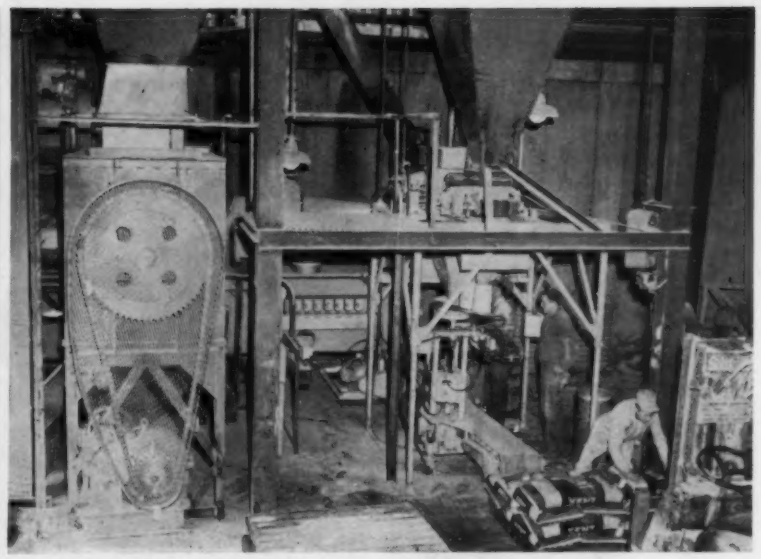

The complete new equipment installation shown here is located on a floor space 19 by 29 ft. in a building 35 ft. high. With these facilities, feed can be weighed, modified, mixed, pelleted, cooled, crumbled, screened and bagged. In the foreground are the batch mixer and bagging unit. In the background are the pellet mill and cooler.

New Facilities Boost Capacity, Increase Flexibility at Kent Mill

By ROGER BERGLUND
Feedstuffs Managing Editor

The installation of some new mixing, pelleting and bagging equipment in a relatively small corner area of the warehouse has solved two problems for Kent Feeds, Inc., at its plant in Muscatine, Iowa.

● The new facilities permit mixing and processing of small custom lots of feeds with various additives without interfering with operations on the main production line.

● Also, the new installation has increased total yearly capacity on the firm's pelleted and crumblized feeds by some 40,000 tons.

C. E. (Bud) Swick, production superintendent at the big Kent mill, explained that the plant had been operating round the clock and needed additional capacity for turning out pellets and granules. Also, there was the increasing problem of filling orders calling for custom mixes with certain additives in small lots. Additional mixing facilities were needed for these special mixes so that it would not be necessary to break into the main production line, a continuous mixing system, and thereby lose production time.

The installation which has solved these problems includes a new hopper scale, 1½-ton Ehrsam horizontal batch mixer, a 100 h.p. California pellet mill, a Wenger horizontal pellet cooler, an I. & C. bagger and the necessary elevating and conveying equipment. All of this was installed in a floor space 19 ft. by 29 ft. in a corner of the warehouse building. The roof of this section was raised to a height of 35 ft. Just outside the warehouse are three steel storage tanks—one of 20-ton capacity and two of 10-ton capacity.

The various formula feeds mixed in the main plant can be conveyed as necessary over to these three tanks. Then by screw conveyor and bucket elevator the feed is moved into the new facilities for mixing, pelleting, crumblizing and bagging. When special mixes are to be made, the feed goes through the hopper scale and into the mixer, and the premixes are hand-dumped into the mixer. After mixing, the feed is elevated and goes through the pellet mill, cooler and crumblizer if crumbles are to be made. It is then re-elevated to a Davis shaker and goes into the bagging scale.

Feed can be moved directly from the steel bins to the pellet mill if no additional mixing is required. Also, when convenient, mixed feed from the main production line can be conveyed past the new bins and directly to mixing or pelleting in the new installation.

Thus, Mr. Swick pointed out, the new unit provides a great deal of additional flexibility in operations at the Muscatine plant, in addition to increasing finished feed capacity. Various mixes can be made and pelleted without causing shut-downs on the main line.

Two men can turn out at least 50 tons per eight hours on the new unit or some 125 to 150 tons per day. All of the handling, mixing and pel-

The new bagging scale may be used to weigh bulk feed into one-ton portable steel boxes moved by forklift truck. C. E. (Bud) Swick, Kent production superintendent, who developed this handling method, is shown on the right.

Here are the three bulk feed bins which were added as part of the new Kent installation to increase production capacity and flexibility at Muscatine. Feed is moved from the main production line by overhead conveyor into these bins. From the bins, the mixed feed can be conveyed into the new installation for further mixing and pelleting.

leting operations are controlled with a push-button system.

One man operating the I. & C. bagger, Mr. Swick said, can pack 50-lb. papers at a rate of 14 bags a minute. With two men, the rate is about 26 bags a minute. Also, the bagging scale is used to weigh feed in bulk into 1-ton portable steel boxes moved by forklift truck. This method of bulk handling, now widely used, was first developed by Mr. Swick at the Kent plant.

He pointed out that all conventional feeds manufactured by Kent are processed into 5/32 in. pellets. Then the feeds go out either as pellets or crumbles. He said this makes for "easier, waste-free handling and eliminates any caking."

The main plant at Muscatine was built in 1952 and has a capacity of some 150,000 tons a year. About a year ago, a second plant was opened at Sioux City, Iowa, to serve that region.

"The new unit at Muscatine," Mr. Swick said, "increases our total capacity, increases flexibility and results in faster, more efficient service for dealers and feeders."

MILL OPERATIONS

(Continued from page 16)

tom, auger-unloading bulk box of 5 tons capacity. Also used is a Simonsen auger on a flat bed truck.

The scales in the two mills are located just ahead of the pits, which Mr. Nicol calls a good arrangement.

He said they use some dry molasses in certain feeds and do not intend to put in equipment for handling liquid molasses.

In building the Shannon mill after first operating the Mt. Carroll plant, Mr. Nicol said, most mistakes were small ones. However, he added, things are already crowded at the Shannon mill because of the additions of more machines.

Mr. Nicol said plans are to make arrangements with larger customers for installation of bulk bins on the farm. Farmers will either pay for the bin outright, or they may pay for it at the rate of $1 per ton of feed put through the bin.

Mr. Nicol said there "definitely is a trend towards using complete rations."

The LaHarpe (Ill.) Feed & Grain operation, described by owner Bob purchased from Kent. An auger takes the feed from boxcar to a leg, which elevates the feed into the bins. The tanks are discharged with augers into bulk trucks or the farmer's truck or wagon. A car of bulk feed (20 tons) can be unloaded in 2½ hours. The three tanks, plus auger and concrete work, cost about $3,000. For bulk delivery, the firm has a Dodgen V-bot-

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Jones, has a daily volume of some 30 tons. Equipment at the mill includes a 50½-ton, 50-ft. truck scale, a 50 h.p. Big Chief hammermill with a 25 h.p. blower, Jacobson leg, 2-ton Brower mixer and 3-ton Jacobson mixer. The mill has two driveways, one for discharging and one for loading out. There are two dump pits, one for grinding and one for rolling, shelling and elevating grain. The firm has a Triumph sheller and a Roskamp oat huller and roller, and plans are to install a molasses mixer and a cracker.

The plant has one full-time man in the mill room and another man who helps during the busy season. A full-time man handles the grain department. Also, there are Mr. Jones and an office girl who weigh the incoming grain.

The mill has 14,000 bu. grain storage. There are six bulk bins for bulk concentrates, ranging in size from 7 to 10 tons. A weigh buggy is used to weigh out concentrates.

For storage of finished ground and mixed feed, the plant has four bins—one for pig starter, one for pig grower and two for finishing feeds. There is a 10-in. screw under the bin for finished feeds. Five tons can be loaded out in three minutes.

Mr. Jones has a 5-ton bulk truck for delivery of feed, but most customers haul their own ground and mixed feed in bulk. Rates for delivering bulk feed are $4 per ton up to 10 miles from the mill. On a 2-ton delivery, the charge is $6, or $3 a ton. The charge is $8 for a 3-ton load. If the customer takes as much as 5 tons at a time, the rate drops to $2 per ton.

The pit will hold 200 bu. The leg will handle 3,000 bu. per hour.

Mr. Jones said he tries to keep feed made up in advance, using the bulk bins. The firm was on a call basis before, which interrupted other mixing.

A grain bank is used, and Mr. Jones said this has increased considerably in popularity. About 90% of the customers are now on the grain bank system.

A 2¢ per bushel "in" charge is made on grain, but there is no storage charge.

Cost records are kept for the firm's customers, showing their feeding costs.

Charges for mill services are 10¢ cwt. for grinding shelled corn, 15¢ for corn and oats mixed, 12½¢ cwt. for ear corn, 10¢ cwt. for rolling, 4¢ bu. for shelling, 15¢ for hulling.

Since institution of the grain bank service, less shelling has been done at the mill. The farmers call out a sheller and bring their corn in.

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Ohio Poultry, Animal Health Day Scheduled

WOOSTER, OHIO—The importance of keeping livestock and poultry in a healthy condition, not only for the benefit of the animals but for humans, will be emphasized during Animal & Poultry Health Day July 8 at the Ohio Agricultural Experiment Station.

According to L. L. Rummell, dean of the college of agriculture and director of the station, research on beef and dairy cattle, hogs, sheep and turkeys will be discussed, whereas in former years separate field events were scheduled for each class of livestock work.

The morning program will permit guests to hear talks on their special interest. Discussions on beef will be held at the beef units of the station, and on dairy cattle at the dairy center. Hog farmers will gather at the W. L. Robison Swine Center near Apple Creek, sheep growers will congregate at the farm on Route 76, and poultry producers will hear about new research at the turkey unit on the main farm.

All visitors will be invited to participate in the afternoon program which will be highlighted by a speech to be delivered by Dr. M. R. Clarkson, deputy administrator with the Agricultural Research Service of the U.S. Department of Agriculture. Dr. Clarkson, a doctor of veterinary medicine, will speak on "Healthier Livestock and Poultry." Also on the afternoon program will be Mr. Rummell and Prof. W. R. Krill, dean of the College of Veterinary Medicine at Ohio State University.

Good nutrition and management are related to health and so in all these programs at the special farms, the newest facts of feeding and improving rations to step up rate of gain and lower costs will be explained by researchers, Mr. Rummell says.

Turkey Group to Meet

CORVALLIS, ORE.—For the second time in five years the directors of the National Turkey Federation will hold their summer executive committee meeting in Oregon. Noel Bennion, secretary of the Oregon Turkey Improvement Assn., reports that the National directors will convene at the Gearhart, Ore., Hotel, June 29 and 30.

The Turkey Improvement Assn. will provide special entertainment during the meeting, and is assisting in completing arrangements for the event.

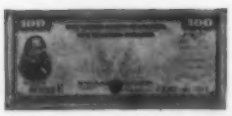
We learned a lesson from a lineman

"*Safety* is where I shine," one of our linemen told us recently. "Safety's one of the most important parts of my job. But *saving*—and that's important, too, for a family man—that's too tough. Why don't you guys in the office make it easy for us—like that Payroll Savings Plan for U.S. Savings Bonds?"

Of course, that is *exactly* what we want to do for *every one* of our people. We explained that to our lineman. But he certainly made us stop and think. Because if *he* didn't know about our plan for buying U.S. Savings Bonds through Payroll Savings, then many other employees must be in the same position.

We telephoned our State Savings Bond Director for help. He worked out a company-wide campaign for us. Application cards were placed in the hands of every person on our payroll. We had a *fair* participation when the campaign started. But within days afterward, we had an *excellent* percentage of bond buying employees.

It shows that practical people welcome a chance to set up this sound savings plan. Today, particularly, there are more payroll savers than ever before in peacetime. Look up *your* State Director in the phone book or write: Savings Bonds Division, U.S. Treasury Dept., Washington, D. C.



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Egg Production Soars in Canada; Reaches '49 Level

OTTAWA—The average Canadian last year consumed 300 eggs, but at the same time, producers across the country marketed 348 eggs per capita.

Production is currently setting a torrid pace; registered stations received 164,828 cases (30 doz. to a case) for one week ending May 2—the highest number since the U.K. contract ran out in 1949. For the same week a year ago, marketings were 141,254 cases.

Canada Department of Agriculture officals note that while the number of eggs set in incubators for layers this year was down 4.4% over the same period a year ago, the trend could easily be reversed later this year.

With fowl selling for 6-8¢ lb. less than it did at this time in 1958, farmers are keeping their hens for laying.

While the 202,058,000 doz. eggs marketed through registered stations last year constituted the second highest number since 1949, they represented only 44.9% of the total production. The percentage decline has been steady since nine years ago when eggs delivered at grading stations amounted to 54.4% of the national total. In other words, more and more producers are selling direct to markets.

With the floor price of 44¢ doz., Grade A large, Montreal (graded and packed in new wooden cases), the Agricultural Stabilization Board has been a big purchaser of surplus eggs. As much as possible is exported and the balance stored, although storage facilities are becoming limited.

Over-production is not an isolated problem. Each province except Newfoundland and New Brunswick is producing surpluses this year.

Added evidence of the accelerated pace of egg production is the fact that for the first time, Canada's per capita production last year was higher than that of the U.S. It was 29.5 doz. per capita, compared with 28.7 doz. in the U.S.

Florida Distributor Named by Iowa Firm

CEDAR RAPIDS, IOWA — Rivers Trailer & Equipment, Inc., Jacksonville, Fla., is a new distributor for Highway Equipment Co., Cedar Rapids, Iowa. The firm will handle New Leader lime spreaders, combination lime and fertilizer spreaders, wide spread lime and fertilizer spreaders and mobile blenders.

Rivers Trailer & Equipment serves the upper northeastern quarter of Florida.

Form New Grain Firm

TOPEKA, KANSAS — A new 1.3 million-bushel elevator which will bring Topeka's total storage to an estimated 60,450,000 bu. has been announced. The new firm, the AB & T Grain Co., has been formed by three Topekans, A. K. Blosser, A. K. Blosser, Jr., and Robert C. Taggart, and W. H. Addington, Elkhart, Kansas. The cost will be $350,000. Another firm, Ismert-Hincke Milling Co., with headquarters in Kansas City, has announced a 517,000-bu. expansion.

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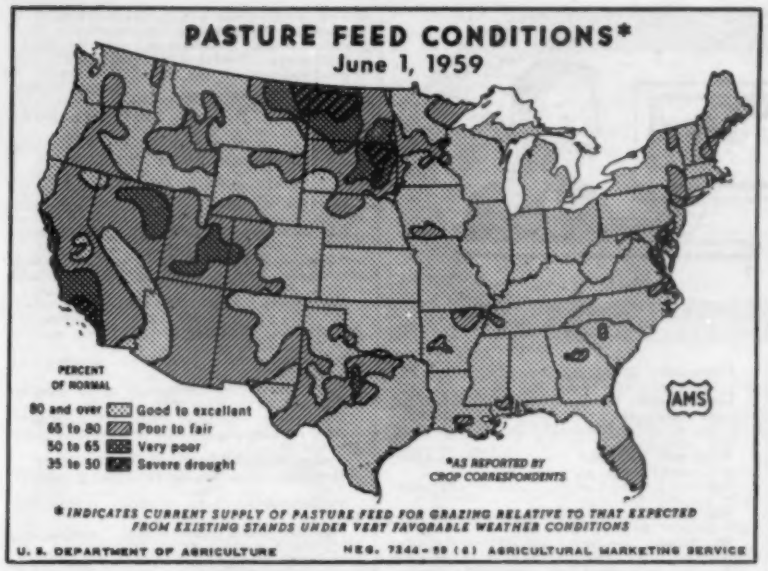
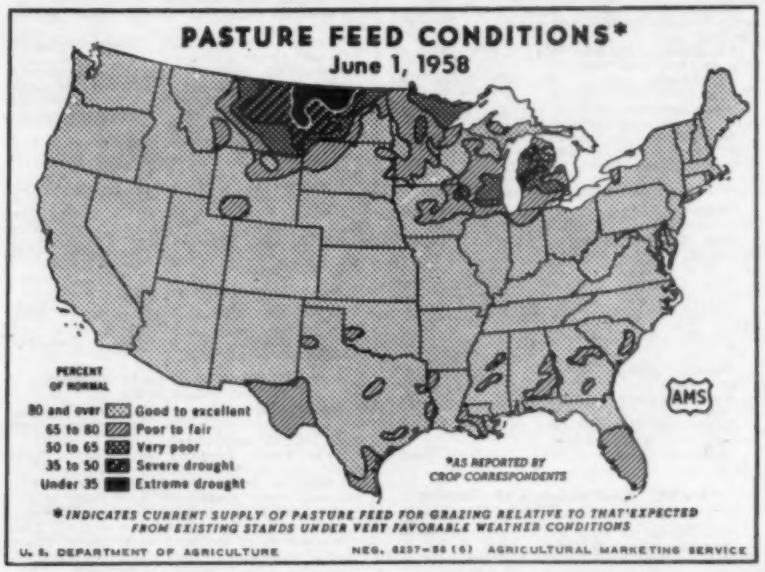

PASTURE FEED CONDITIONS*
June 1, 1959
PERCENT OF NORMAL
80 and over Good to excellent
65 to 80 Poor to fair
50 to 65 Very poor
35 to 50 Severe drought
*AS REPORTED BY CROP CORRESPONDENTS
AMS
*INDICATES CURRENT SUPPLY OF PASTURE FEED FOR GRAZING RELATIVE TO THAT EXPECTED FROM EXISTING STANDS UNDER VERY FAVORABLE WEATHER CONDITIONS
U. S. DEPARTMENT OF AGRICULTURE
NEG. 7244-59 (6) AGRICULTURAL MARKETING SERVICE


PASTURE FEED CONDITIONS*
June 1, 1958
PERCENT OF NORMAL
80 and over Good to excellent
65 to 80 Poor to fair
50 to 65 Very poor
35 to 50 Severe drought
Under 35 Extreme drought
*AS REPORTED BY CROP CORRESPONDENTS
AMS
*INDICATES CURRENT SUPPLY OF PASTURE FEED FOR GRAZING RELATIVE TO THAT EXPECTED FROM EXISTING STANDS UNDER VERY FAVORABLE WEATHER CONDITIONS
U. S. DEPARTMENT OF AGRICULTURE
NEG. 8237-59 (6) AGRICULTURAL MARKETING SERVICE

Pasture Conditions Mostly Good

WASHINGTON — Warm weather and timely rainfall over much of the country resulted in rapid development of pasture feed during May, it is noted in the U.S. Department of Agriculture's June crop production report. The report said that generally pastures were in good condition on June 1 except in the northern Great Plains and the Southwest.

In the north central part of the country, pastures were excellent on June 1 in all states other than North and South Dakota.

Crop reporters in the south central region indicated that pastures were in good to excellent condition.

June 1 pasture condition showed little change from the previous month in the West, but grass was not as lush as on June 1 last year. Pastures were better than on June 1 last year in Montana, but were poorer than a year earlier in all other western states. In California, pastures were in the poorest condition for June 1 since 1939.

In the Atlantic Coast regions, pastures showed about the usual seasonal improvement during May and were furnishing ample grazing by June 1. However, there were dry areas in southern Maine, eastern New York and southern New Jersey.

Co-op Manager Dies

EAGLE GROVE, IOWA—Ed Olson, general manager of the Boone Valley Cooperative at Eagle Grove, died recently of a heart attack. He had helped organize the co-op in 1943, and had been general manager since that time. Before that he had been associated with co-operatives at Albert City, Webster City and Woolstock, Iowa. A successor has not yet been announced.

CAPITAL COMMENT

(Continued from page 1)

ation has sent to USDA a letter setting forth its objections to the measure.

Last year, in the 85th Congress, the same bill was proposed and not acted upon by Congress. Now it is coming up again.

USDA officials say that while they have not sent to Congress any comments on the proposal, they believe that their previous objections, which were primarily technical in nature, will appear again.

At the late hour of this session, observers doubt that final action can be anticipated.

The turkey group is resting its case on the marketing order and agreement techniques which have been adopted with speculative results in the fruit and vegetable industries.

Noting differences between the turkey proposal and present marketing agreements, the Farm Bureau says it doubts that area differences can be soundly covered under one national marketing order as proposed for turkeys. The AFBF also says the principle of using a marketing order as a means of collecting money from producers for purchase and diversion programs has broad implications which go in the opposite direction of the desire to reduce the role of government in agriculture. And, while it supports voluntary promotion activities, the Farm Bureau says it opposes the proposed use of a marketing order to check off funds from producers on a compulsory basis.

Turkeys, like potatoes, are produced in many areas, and it is felt by some that a national order would not be practicable. The potato industry has attempted to control marketing through regional or state marketing orders and agreements with not much success.

USDA officials, while reflecting basic criticisms of the industry proposals, say the turkey industry does have specialized areas which produce more than 85% of total output, but they say there is no telling what might happen if the other minority moved into expansion in event of marketing orders and agreements unless there was a national order.

One may bow the head in favor of efforts of the turkey industry to create order out of price chaos, but it should be remembered that marketing orders in the past eventually worked to the detriment of the producers affected.

EGGS: USDA is implementing its current step in heading off demands of egg producers to adopt a buying program for shell eggs. USDA said that, starting June 16, it will accept offers of frozen eggs for storage, in approved warehouses, with the first month storage paid and in-and-out loading charges prepaid.

This purchase offer, observers note, comes at a time when the flush production period is burning out. The USDA offer to buy also is qualified by the consideration that any eggs offered must be packed after the award has been made on the above date.

Further, USDA says offers must be in carload lots of not less than 30,000 lb., with certain other requirements. Conversion to frozen eggs also must conform to the USDA definition of fresh shell eggs.

USDA has given ground to northeastern and other producers who asked help, but it also has served up some definitions which may be unpalatable to these producers.

Meanwhile, a number of industry observers say the egg market situation is simply one of excess production in an extreme condition. Removal of shell eggs from the market or the taking up of old hens would not be sound, they say, adding that there are just too many shell eggs for the market to absorb at prices which will satisfy higher cost producers.

WHEAT: The House this week passed the wheat legislation bill prepared by the House Agricultural Committee after it previously had rejected an administration measure offered by Republican Oklahoma Congressman Page Belcher.

Following the thin margin in favor of the House committee measure, Democrats noted that the Republican floor leadership made no major efforts to gain support to defeat the House committee bill, although it is believed that had Republican floor leader worked among urban Democrats he could have switched the necessary six votes which would have killed the bill and ultimately sent it back to committee.

As things now stand, a congressional conference committee will consider two widely divergent measures from the two chambers, neither of which has administration favor, and reconciliation of these two measures to bring about a bill favorable to the White House seems unlikely.

The probability now is that there will be no wheat legislation for this session, either through White House veto or inability of the pending conference committee to reach any agreement.

This result will mean that for the next wheat crop supports will continue at 75% of parity, with a 55-million-acre national allotment, and the 15-acre exemption will continue.

Feed Conference Set At Clemson July 13-14

CLEMSON, S.C.—A two-day feed manufacturers conference is scheduled for Clemson College July 13-14. According to Dr. B. D. Barnett, Clemson poultry department, several outstanding speakers from the feed industry and from the Clemson College staff will be on hand for the conference.

All sessions will be held in the R. F. Poole Agricultural Center. A complete program will be announced later.

DR. NORRIS

(Continued from page 4)

of manganese in preventing perosis, a leg bone malformation in chicks which was severely threatening the newly-founded broiler industry.

In addition, he played a large part in determining the vitamin B_{12} requirements of chickens.

More recently, Dr. Norris identified vitamin K deficiency as the major cause of the field hemorrhagic disease, a disorder in which the blood fails to clot. He also explored various "stress factors" (drugs, disease, etc.) concerned in the development of vitamin K deficiency.

In line with his current work—the mineral requirements of poultry—he took part with others in showing the need for a certain amount of zinc in the diet of chicks. As a result, the problem of "unidentified minerals" has been more clearly defined.

39 Years at Cornell

Dr. Norris' retirement marks 39 years of service at Cornell. After receiving his B.S. and Ph.D. degrees from the college, he began teaching in 1920, first as an assistant and then as an instructor in animal husbandry. He became an instructor in poultry husbandry in 1923 and an assistant professor in 1926. In 1936, he was named professor of poultry husbandry, and in 1943, professor in nutrition. He has since held dual appointments in the college of agriculture and the graduate school of nutrition.

Dr. Norris has not confined his interest to animal nutrition. His concern with human nutrition and his belief in the increasing importance of research and teaching in this field led him to work for the establishment of Cornell's school of nutrition. He served as secretary of the school from 1941 to 1948.

Thirty-five graduate students have received doctoral degrees under his guidance.

In 1934, Dr. Norris was among the men who established the annual Cornell Nutrition Conference for Feed Manufacturers. He has served actively in the National Academy of Sciences-National Research Council and has been an associate editor of several publications.

He received the first Borden Award in 1938 from the Poultry Science Assn., and in 1957 was presented the Poultry Science Teaching Award.

ARKANSAS

(Continued from page 4)

proportions and placed the Arkansas producer and processor at a distinct disadvantage."

Mr. Miller told the group that the USDA makes an effort to provide a uniform inspection service in all areas of the nation. He promised to correct the situation, admitting that the department was aware of the problem, and was laboring to bring inspections into a uniform group.

Sen. Fulbright, during his questioning of the USDA officials, said that the facts turned over to him were "alarming." He urged Mr. Miller to consider the request of Arkansas producers to have the state transferred into the Chicago inspection region.

Mr. Miller, insisting that the department will bring all inspections into line, said such a transfer would not solve the problem.

Mr. Hagan said that in one plant in the Springdale area two inspectors were apparently using radically different inspection methods. He said that "while one inspector was throwing out four birds, the other was rejecting only one."

Poultrymen attending the conference generally agreed that they are not opposed to the inspection program, but that they are "disappointed" in the way it is being administered in this region.

The FEED MARKET

PRICE QUOTATIONS, MARKET TRENDS
OF PRINCIPAL INGREDIENTS

NOTE: Quotations on feed ingredients shown in these and adjoining columns are wholesale prices, per ton, bagged, for prompt delivery, unless otherwise noted. They are the latest quotations available from Feedstuffs correspondents and are not necessarily those in effect on date of publication. The prices represent fair average trading values and do not necessarily represent extreme low or high levels at which individual sales might have occurred. A descriptive summary of supply and demand factors prevalent in the feed market appears on page 2.

A AND D FEEDING OIL

Denver: Demand fair; trend steady; supply ample; 300 D, 2,250 A 22¢ lb.

Boston: Demand fair; supply adequate; 600 D, 1,500 A 17½¢ lb.; 300 D, 2,250 A 18¢; 300 D, 1,500 A 16½¢; 300 D, 750 A 14¾¢; 400 D, 3,000 A 20¢; 300 D, 3,000 A 19½¢; 75 D, 750 A 14½¢.

Chicago: Demand fair; trend steady; supply ample; straight A feeding oil, with 10,000 units vitamin A per gram, 7@7¼¢ a million units of vitamin A, l.c.l., packed in 55-gal. drums, f.o.b. Chicago, drums included.

Minneapolis: 10,000 A 35¢ lb.; 300 D, 2,250 A 20¢ lb.; 300 D, 1,500 A 18¢ lb.; 300 D, 750 A 16½¢ lb.

New York: Demand fair; trend steady; supply limited; price per lb. in 55-gal. drums (413 to 420 lb.): 300 ICU, 750 A 13½ @15½¢, 1,500 A 15½@17¢, 2,250 A 17½@20¢, 3,000 A 19@21¢; 600 ICU, 1,500 A 16@18¢, 2,250 A 18@19½¢; f.o.b. Massachusetts, New York or Pennsylvania.

ALFALFA MEAL

Los Angeles: Demand fair; trend unchanged; supply adequate; dehydrated meal, 17% protein, 100,000 A $50, bulk; dehydrated pellet meal, 17% protein, 100,000 A $53, bulk; suncured meal, 15% protein $42@43, bulk; suncured crumbles, 15% protein $44@45, bulk.

Denver: Demand fair; trend weak; supply ample; $39.

Chicago: Demand fair; trend easier; supply adequate; 17% dehydrated, with 100,000 units vitamin A guaranteed $50.50, carlots; no offerings of suncured.

Omaha: Demand good; trend steady; supply ample; 17% dehydrated, 100,000 A units, bulk pellets $38; sacked meal $45, all Omaha basis.

Boston: Demand slow; supply plentiful; dehydrated, 17% $59; suncured, 13% $47, nominal.

New Orleans: Demand slow; trend weaker; supply ample; vitamin A, 17% $62@63; pellets $60@61.

Philadelphia: Demand and supply fair; trend unsettled; 17% dehydrated $58.50.

Cincinnati: Demand fair; trend lower; supply adequate; 17% dehydrated, 100,000 vitamin A $56.50@60.50.

Ft. Worth: Demand good for dehydrated, fair for suncured; supply sufficient; new crop, Texas production, 17%, 100,000 A $50; bulk pellets $46; suncured, 13% ¼-in. grind No. 1 $38.

Portland: Demand good; supply ample; trend unchanged; suncured $42; dehydrated $63.50.

St. Louis: Demand slow; trend lower; supply adequate; suncured, 13% fine $40; 17%, 100,000 units vitamin A $50.

Memphis: Demand good; trend steady to lower; supply ample; dehydrated, 17% protein, guaranteed 100,000 units vitamin A $48.

Seattle: Demand fair; trend firm; supply good; 15% protein suncured $48, truck loads; 136,000 A unit dehydrated $69, truck loads.

Buffalo: Demand poor; trend steady to lower; supply fair; $64, Boston.

Minneapolis: Fair demand; production continues to be heavy; prices unchanged; 17% dehydrated, 100,000 units vitamin A reground pellets $50; oiled reground $52, bulk.

Kansas City: Demand fairly good; trend steady to weaker for next week; supply ample, production is proceeding well in most areas into second cutting; dehydrated alfalfa meal with 17% protein and 100,000 units vitamin A guaranteed on arrival: regular meal for next week $42, sacked; reground pellets $45, sacked; greased meal $47, sacked; pellets $38@40, bulk, with the lower price being quoted by those who cannot process pellets; 18% protein, 125,000 meal $49, sacked; 20% protein, 150,000 meal $55, sacked; suncured alfalfa demand is light and supplies are extremely scarce because of lack of production. No. 1 fine ground $37, No. 1 ¼-in. $35.50, No. 2 ¼-in. $32.50, sacked.

ANIMAL FAT (STABILIZED)

Ft. Worth: Demand good; supply rather tight; prime tallow, tank cars 6¾@7¢ lb.; drums 8¾@8½¢ lb., f.o.b. north Texas packing plants with returnable drums.

Boston: Demand and supply steady; tallow 7¼¢ lb.; yellow grease 6¾¢ lb.

Chicago: Demand fair; trend steady; supply ample; bleachable fancy tallow, tank, truck or car lots $7 cwt.; yellow grease $6.75 cwt., carlots.

New Orleans: Demand fair; trend steady; supply adequate; 6½@7¢ lb., tank cars.

San Francisco: Demand fair; supply ample; bleachable fancy 7¾¢ lb.; yellow grease 6¾¢ lb.

Louisville: Demand dull; trend steady; supply good; bleachable white 6¾¢ lb.; white tallow 7½¢ lb.; yellow grease 6½¢ lb.

Kansas City: Demand improved to some extent; firmer undertone; supply adequate; prime tallow 6½¢ lb., tank car.

St. Paul: Increased export demand continues to firm market. Bleachable fancy tallow now quoted at 6¾¢ lb., f.o.b. producer's plant; feed demand continues strong.

BARLEY FEED

San Francisco: Demand fair; supply ample; rolled $61.57; ground $60.56.

Baltimore: Demand poor; trend steady; supply ample; $45.50, carlots.

Chicago: Demand limited; trend steady; supply good; $35, carlots.

Philadelphia: Demand slow; supply fair; pulverized $49.

Ogden: Supply normal; rolled $52@57; whole barley $44@49.

Boston: Demand and supply fair; $47.

New Orleans: Demand slow; trend unchanged; supply ample; $60@61.

Los Angeles: Demand slow; trend firmer; supply adequate; standard rolled $2.95 cwt., sacked; standard ground $2.95 cwt., sacked.

Portland: Demand slow; supply ample; trend unchanged; rolled $62; ground $60.

Seattle: Demand fair; trend weak; supply good; $49, bulk, truck lots.

BENTONITE (SODIUM)

Denver: Demand fair; trend good; supply ample; $23.

Cincinnati: Demand steady; supply adequate; f.o.b. Cincinnati, minimum 30-ton carlots: 80 granular $31.50; 200 mesh fine $37.

Chicago: Demand steady; trend firm; supply adequate; f.o.b. Wyoming and South Dakota shipping points: granular, 30 mesh $16.50; fine granular, 80 to 100 mesh $13.75; powder, 200 mesh $13.50, f.o.b. Belle Fourche, S.D., minimum 30-ton carlots, 80 granular $13.50 net; 200 mesh, fine $13.25 net.

BLOOD FLOUR

Louisville: Demand slow; trend steady; supply good; $80@85.

BLOOD MEAL

San Francisco: Demand fair; supply ample; $6.75 a unit of ammonia.

Louisville: Demand dull; trend steady; supply good; $80@85.

Los Angeles: Demand slow; trend weaker; supply increased; $6.50 a unit of ammonia.

Ogden: Supply normal; $110 in 100-lb. bags, f.o.b. Ogden.

Chicago: Demand fair; trend steady; supply ample; guaranteed 80% protein $130, carlots.

New Orleans: Demand fair; trend unchanged; supply normal; $95@100.

Portland: Demand good; supply ample; trend unchanged; $1.35 a unit.

BONE MEAL (STEAMED)

Denver: Demand good; trend firm; supply limited; $103.20.

Boston: Demand and supply steady; $90.

Ft. Worth: Demand good; supply light; $90, f.o.b. Ft. Worth, local manufacture.

Cincinnati: Demand fair; trend steady; supply ample; $100, Cincinnati.

Chicago: Demand and supply fair; trend steady; in 50-lb. bags $105 in carlots.

New Orleans: Demand fair; trend firm; supply light; $102@104.

San Francisco: Demand good; supply ample; $75.

Louisville: Demand dull; trend steady; supply normal; $75@80.

Los Angeles: Demand fair; trend unchanged; supply adequate; imported $78 in 20-ton lots.

Portland: Demand good; supply ample; trend unchanged; $1.02 a unit.

Seattle: Demand good; trend firm; supply limited; $89, truck lots.

Buffalo: Demand good; trend steady; supply limited; $105.

BREWERS DRIED GRAINS

San Francisco: Demand fair; supply ample; $54.

Cincinnati: Demand poor; trend steady; supply adequate; $52.

Boston: Demand fair; supply good; 22% $49.50@50; 26% $50 sacked, $42.50 bulk.

Chicago: Demand fair; trend steady; supply ample; 26% protein $45, carlots.

New Orleans: Demand fair; trend easy; supply ample; $50@51.50.

Ft. Worth: Demand fair; supply sufficient; 26% protein $50, June.

Philadelphia: Demand and supply fair; $51.50.

Los Angeles: Demand fair; trend unchanged; supply adequate; $49.50 bulk, $53.50 sacked.

Louisville: Demand fair to dull; supply good; trend steady; $45.

St. Louis: Demand good; trend lower; supply ample; $42.

Buffalo: Demand fair; trend steady to lower; supply good; $41.50, bulk, Boston.

BREWERS DRIED YEAST

Chicago: Demand fair; trend steady; supply ample; $9.50@10.50 cwt. in carlots; $9.75@12.25 cwt., l.c.l.

Omaha: 10½¢ lb.

Boston: Demand and supply steady; 11¢ lb.

Denver: Demand light; trend steady; supply ample; 9¢ lb., f.o.b. Golden, Colo.

San Francisco: Demand fair; supply good; 10¢ lb.

Louisville: Demand slow; trend steady; supply good; 10@10½¢ lb.

Los Angeles: Demand slow; trend steady; supply adequate; 10¢ lb. in 5-ton lots; 11¢ lb. in 1-ton lots; 12¢ lb. in less than 1-ton lots.

Portland: Demand good; supply ample; trend unchanged; 8½¢ lb.

Seattle: Demand slow; trend steady; supply ample; $12 cwt.

Buffalo: Demand poor; trend lower; supply ample; $9.35 cwt.

St. Louis: Demand fair; trend steady; supply ample; carlots 9½¢ lb.; ton lots 10½¢ lb.; less than ton lots 11½¢ lb.

Milwaukee: Demand good; trend steady; supply fair; carlots 10@11¢ lb.; l.c.l. 10½@12¼¢ lb.

Cincinnati: Carlots 10¢ lb.; 5-ton lots 11¢ lb.; ton lots 11½¢ lb.

Pittsburgh: Carlots 10¢ lb.; 5-ton lots 11¢ lb.; ton lots 11½¢ lb.

New Orleans: Carlots 10¢ lb.; 5-ton lots 11¢ lb.; ton lots 11½¢ lb.

New York: Carlots 9½¢ lb.; 10-ton lots 10¢ lb.; 5-ton lots 10½¢ lb.; ton lots 11¢ lb., f.o.b. New Jersey.

BUTTERMILK-CONDENSED

Chicago: Demand fair; trend steady; supply adequate; $3.25@3.50 cwt., carlots.

Los Angeles: Demand slow; trend unchanged; supply adequate; 5½¢ lb. in 100-lb. lots; 4½¢ lb. in 500-lb. lots.

New Orleans: Demand slow; trend unchanged; supply average; $4.25@4.30 cwt.

Philadelphia: Demand slow; supply light; $4.25 cwt.

Boston: Demand fair; supply tight; 3¾¢ lb.

Ogden: Supply average; $4.40, 100-lb. drum.

San Francisco: Demand fair; supply good; $5 cwt.

Louisville: Demand very dull; trend easy; supply nil; $4.25 cwt.

Wichita: Demand slow; supply good; $2.90 cwt. in barrels.

CALCITE CRYSTALS AND FLOUR

(All prices net, including freight)

New York: Crystals $15.28, flour $10.28.
Buffalo: Crystals $16.11, flour $11.11.
Toledo: Crystals $17.96, flour $12.96.
Boston: Crystals $16.53, flour $11.63.
Limecrest, N.J.: Crystals $10.50, flour $5.50.

CALCIUM CARBONATE

Los Angeles: Demand slow; trend unchanged; supply ample; $10.25.

Chicago: Demand steady; trend firm; supply adequate; fine grind, plain, 100-lb. bags $9.54; bulk, in hopper cars $7.54; bulk in boxcars $8.04; granular grind $1 premium.

Cincinnati: Demand fair; trend steady; supply adequate; $8@9 cwt.

Seattle: Demand and trend steady; supply good; $14, ex-warehouse, truck lots.

Minneapolis: Fine grind, 50-lb. bag $12.25, 100-lb. bag $11.50; bulk, boxcar $10; bulk hopper $9.50; coarse grind $1 premium, delivered Minneapolis.

CHARCOAL

Chicago: Demand slow; trend steady; supply fair; poultry charcoal $110 in 50-lb. mutiwalls.

Boston: Demand and supply steady; $100.

San Francisco: Demand steady; supply ample; $141.

Los Angeles: Demand slow; trend unchanged; supply adequate; hardwood poultry $156 in less than ton lots; $144.40 in ton lots.

COCONUT OIL MEAL

San Francisco: Demand good; supply tight; solvent $65.

Los Angeles: Demand slow; trend firmer; supply adequate; copra cake $79, bulk.

Portland: Demand slow; supply ample; trend unchanged; $68.

Seattle: Demand fair; trend steady; supply ample; $75, via truck (California).

COD LIVER OIL (FORTIFIED)

Boston: Demand fair; supply adequate; 600 D, 2,250 A 19¢ lb.; 300 D, 3,000 A 20½¢; 300 D, 2,250 A 18½¢; 600 D, 1,500 A 18¢; 300 D, 1,500 A 17¢.

New York: Demand limited; trend steady; supply fair; price per lb. in 55-gal. drums (413 to 420 lb.): 300 ICU, 750 A 14½@15½¢, 1,500 A 18½@20¢, 2,250 A 18½@21¢, 3,000 A 21½@23¢; 600 ICU, 1,600 A 17½@19½¢, 2,250 A 20@22¢, 3,000 A 22@23¢; f.o.b. Massachusetts, New York or Pennsylvania.

CONDENSED FISH SOLUBLES

Boston: Demand steady; supply improved; 4¾@5¢ lb.

New Orleans: Demand light; supply limited; trend steady; $109@114.

Denver: Demand fair; trend steady; supply ample; dried $182.40.

Los Angeles: Demand slow; trend weaker; supply adequate; 4½¢ lb.

New York: Demand fair; trend steady; supply tight; 4¢ lb., f.o.b. eastern shore.

CORN GLUTEN FEED AND MEAL

(All quotations for all cities are sacked basis, bulk basis $5 less)

Minneapolis: Feed $44.90, meal $71.90.
Atlanta: Feed $50.98, meal $77.98.
Birmingham: Feed $49.64, meal $76.64.
Boston: Feed $49.84, meal $76.84.
Chicago: Feed $38, meal $65.
Cleveland: Feed $46.14, meal $73.14.
Denver: Feed $48.51, meal $75.51.
Ft. Worth: Feed $46.96, meal $73.96.
Indianapolis: Feed $43.36, meal $70.36.
Kansas City: Feed $38, meal $65.
Louisville: Feed $45.21, meal $72.21.
New Orleans: Feed $48.20, meal $75.20.
New York: Feed $49.43, meal $76.43.
Norfolk: Feed $48.71, meal $75.71.
Philadelphia: Feed $49.02, meal $76.02.
Pittsburgh: Feed $46.96, meal $73.96.
St. Louis: Feed $38, meal $65.

CORN OIL MEAL

Cincinnati: Demand fair; trend lower; supply adequate; $44.50.

Louisville: Demand very dull; trend very weak; supply light; $52.45, off $4.

COTTONSEED OIL MEAL

Cincinnati: Demand poor; trend steady; supply adequate; $70.

Los Angeles: Demand fair; trend steady; light offerings; $72, bulk.

Chicago: Demand fair; trend easier; supply ample; hydraulic $61.50, solvent $61.50, carlots.

Ft. Worth: Demand very poor; supply sufficient; 41% old process $68; solvent, 1% fat added $63; pellets $2 additional; cottonseed hulls $16@18.

Denver: Demand fair; trend steady; supply ample; $70.60.

San Francisco: Demand good; supply tight; 41% $75; 44% $78.

Louisville: Demand dull; trend steady; supply ample; old process $68.50; new process $66.50.

Ogden: Supply average; 41% $77@82.

Boston: Demand fair; supply steady; $79.50.

Philadelphia: Demand slow; supply fair; $80.

New Orleans: Demand slow; supply limited; trend steady; $73.50@74.

Omaha: Demand slow; trend easy; supply ample; 41% solvent $65.10, bulk.

Portland: Demand slow; trend lower; supply ample; $77.

Wichita: Demand fair; supply sufficient; 41% old process $72.

Memphis: Demand poor; trend steady; supply small; prime 41% protein, old process $61.50; new process, 41% solvent $62.

St. Louis: Demand slow; trend steady; supply fair; solvent $66.50.

Seattle: Demand fair; trend steady; supply ample; 41% expeller process $85, truck lots.

Buffalo: Demand poor; trend steady; supply adequate; $80, Boston.

Kansas City: Demand very light, since it is priced well above soybean oil meal; trend steady; supply light but adequate for demand; old process and solvent meal $62, Memphis.

CURACAO PHOSPHATE

New York: Trend steady; ground Curacao phosphate in 100-lb. bags $48, f.o.b. cars or trucks, New Orleans, Jacksonville, Fla., or Philadelphia.

D ACTIVATED ANIMAL STEROL (POWDERED)

Cincinnati: Demand fair; trend steady; supply ample; 1,500 ICU 11@12¢ lb.; 3,000 ICU 18¢ lb., warehouse.

New York: Demand and supply good; trend steady; price per lb. in 50- and 100-lb. bags, or 100-lb. drums: 1,500 ICU 8@12¢ bagged, 12@13¢ drums; 3,000 ICU 13@17¢ bagged, 17@18¢ drums; f.o.b. or delivered basis Pennsylvania, Delaware or New York.

Kansas City: Demand fair; trend steady; supply adequate; 1,500 ICU 9¾@10¢ lb.; 3,000 ICU 11½@12¢ lb., in ton lots.

D ACTIVATED PLANT STEROL (POWDERED)

Chicago: Demand good; supply fair; 4,000,000 U.S.P. units per lb., 15¢ lb. in ton lots, less than ton lots 17¢ lb.; 12,000,000 units per lb., 5 tons to a carload 28¢ lb., ton lots and less 30¢ lb.

DEFLUORINATED PHOSPHATE

Tupelo, Miss.: Minimum phosphorus 13%, minimum calcium 31%, maximum fluorine .12%, $51 net ton, f.o.b. Tupelo in 100-lb. multiwall bags, $48 in bulk.

Wales, Tenn.: Minimum phosphorus 18%, minimum calcium 33%, maximum calcium 36%, maximum fluorine .18% $69.12 net ton, f.o.b. Wales in 100-lb. multiwall bags, $3 less in bulk.

Houston: Minimum phosphorus 19%, minimum calcium 32%, maximum calcium 35%, maximum fluorine .19% $71.50, net ton, f.o.b. Houston, 100-lb. multiwall paper bags; $68.50 in bulk.

Coronet, Fla.: Minimum phosphorus 18%, minimum calcium 31%, maximum calcium 34%, maximum fluorine .18%; carlots $63.50, truck load $64.25, net ton, f.o.b. Coronet in 100-lb. multiwall bags $60.50 and $61.25 in bulk.

Cincinnati: 18% phosphorus $81, sacked; 13% phosphorus $64.98, sacked; f.o.b. Cincinnati.

DICALCIUM PHOSPHATE

Chicago: Stock food grade, 18.5% phosphorus, 20,000 lb. or more $83.25 net ton in 100-lb. papers, basis Chicago Heights, Ill., or Nashville, Tenn.; less than 20,000 lb. $93.25; 21% phosphorus, 20,000 lb. or more $94.50, basis Chicago Heights and Nashville; less than 20,000 lb. $104.50; bulk boxcars or hoppers $3 net ton less than bagged material.

Bonnie, Fla.: Minimum phosphorus 18½%, granular $83.25; freight equalized with closest producing point, carload basis.

Texas City, Texas: 18.5% minimum phosphorus, 21% minimum calcium, 24% maximum, granular $77.70 net ton, f.o.b. Texas City in 100-lb. multiwall bags; bulk, boxcars and hoppers, $3 net ton less than bagged material.

Columbia, Tenn.: Minimum phosphorus 18½%, minimum 25% calcium, maximum .01% fluorine guaranteed $83.25, f.o.b. Columbia, in 100-lb. multiwall bags; freight equalized with nearest producing point, carload basis; bulk $3 ton less.

Minneapolis: 18.5% phosphorus, 24% calcium granular or fine ground $94.10, delivered; $3 less in bulk.

Trenton, Mich.: Minimum phosphorus 18½%, maximum fluorine .03% guaranteed $83.25, f.o.b. Trenton in 100-lb. multiwalls; minimum phosphorus 21%, maximum fluorine .03% guaranteed $94.50, f.o.b. Trenton in 100-lb. multiwall bags.

Denver: Demand fair; trend steady; supply ample; $93.60.

Cincinnati: 18½% phosphorus $92@93.

Portland: Demand slow; supply ample; trend unchanged; $115.

DISTILLERS DRIED GRAINS

Boston: Demand good; supply light; light $60; dark $61.

Cincinnati: Demand poor; trend steady; supply adequate; by truck $52.

Philadelphia: Demand slow; trend unsettled; supply light; $60, nominal.

San Francisco: Demand fair; supply ample; solubles $85.

Louisville: Demand dull; trend easy; supply good; production will be very light, July to September inclusive; bourbon grains: light $48@50, dark $50@52, solubles $77.
Seattle: Demand good; trend steady; supply limited; $67.50, truck lots.
Buffalo: Demand and supply fair; trend steady; $56, bulk, Boston.

DRIED BEET PULP

Ft. Worth: Demand slow; offerings light; carlots, 50-lb. papers $61 June, $66 July.
Los Angeles: Demand steady; trend unchanged; supply ample; molasses $47.30, bulk.
Denver: Demand good; trend steady; supply ample; $49.23.
Boston: Demand and supply steady; $59.50 @60.
Ogden: Supply average; $44@48.
San Francisco: Demand good; supply fair; $51.80 bulk.
New Orleans: Demand fair; trend steady; supply limited; $61@62.
Portland: Demand good; supply scarce; trend unchanged; $59.
Seattle: Demand good; supply limited; $49, carlots.
Buffalo: Demand poor; trend steady; supply adequate; $60, Boston.

DRIED BUTTERMILK

New Orleans: Demand fair; trend easy; supply normal; $11.50@12 cwt.
Chicago: Demand good; trend steady; supply ample; medium acid $10.75@11 cwt., carlots; sweet cream $11@11.25 cwt., carlots.
Ogden: Supply average; $8.50, 100-lb. bag.
San Francisco: Demand fair; supply ample; 11½¢ lb.
Los Angeles: Demand slow; trend unchanged; supply adequate; 11¾¢ lb.
Louisville: Demand dull; trend steady; supply normal; 11½@12¢ lb.
Buffalo: Demand good; trend steady; supply limited; $11.85 cwt.

DRIED CITRUS PULP

Los Angeles: Demand steady; trend unchanged; supply light; orange pulp $43, bulk; lemon pulp $42, bulk.
Boston: Demand spotty; supply adequate; $35@36, f.o.b. Florida.
New Orleans: Demand fair; trend strong; supply good; $35@40, f.o.b. Florida points.
San Francisco: Demand and supply fair; meal $54.
Buffalo: Demand poor; trend steady; supply adequate; $37, f.o.b. Florida points.

DRIED SKIM MILK

San Francisco: Demand and supply fair; 13¾¢ lb.
Louisville: Demand dull; trend steady; supply normal; 11½@12¢ lb.
Cincinnati: Demand fair; trend steady; supply adequate; 10¾¢ lb.
Ogden: Supply average; $15.15, 100-lb. drum.
Los Angeles: Demand slow; trend unchanged; supply adequate; 14¢ lb. in less than ton lots; 13¾¢ lb. in ton lots.
Boston: Demand and supply good; 12¢ lb.
Philadelphia: Demand slow; supply light; $12.50 cwt.
New Orleans: Demand fair; trend unchanged; supply ample; $11.50@12 cwt.
Chicago: Demand good; trend steady; supply ample; $10.75 cwt. in carlots.
Portland: Demand slow; supply ample; trend unchanged; 13¢ lb.
Buffalo: Demand fair; trend steady; supply ample; spray $10.65 cwt.
Minneapolis: Good demand, but while material is still somewhat scarce it is a little more available; weaker price at $10.90 cwt.

DRIED WHEY

Philadelphia: Demand slow; supply light; $6.50 cwt.
San Francisco: Demand steady; supply good; $5.75 cwt.
Cincinnati: Demand fair; trend steady; supply adequate; $6.15 cwt.
New Orleans: Demand good; supply ample; trend steady; $6@6.25 cwt.
Denver: Demand fair; trend steady; supply ample; $6.50 cwt.
Los Angeles: Demand slow; trend unchanged; supply adequate; $6.10 cwt. in carloads; $6.35 cwt. in l.c.l.
Boston: Demand and supply steady; 5½¢ lb., f.o.b. shipping points.
Chicago: Demand fair; trend steady; supply adequate; $5.50 cwt., f.o.b. plant.
Ft. Worth: Demand fair; supply adequate; carlots, standard #6, sacked; $6.25 ton lots, f.o.b. warehouse, Ft. Worth.
Ogden: Supply normal; $6.90, 100-lb. bag.
Louisville: Demand dull; trend steady; supply light; 6@6½¢ lb.
Portland: Demand slow; supply ample; trend unchanged; $7 cwt.
Seattle: Demand and trend steady; supply good; $6.40 cwt., ex-warehouse, l.c.l.
Minneapolis: Fair demand; fair supply; steady trend at $5.50 cwt., producers' points.
Kansas City: Demand good; trend steady; supply light; $5.50 cwt., producers' plants for both regular and partially delactosed.

FEATHER MEAL (HYDROLYZED)

Ft. Worth: Demand fair; supply moderate; 85% to 87% protein $100, f.o.b. trucks, north Texas plants.
Boston: Demand steady; supply nil; withdrawn.
Los Angeles: Demand slow; trend unchanged; supply adequate; $1.25 a unit of protein.
Salisbury, Md.: Good demand; supply limited; steady trend; $98, bulk, f.o.b. producers' points; sacked $4 more.

FISH MEAL

Chicago: Demand fair; trend steady; supply ample; menhaden, Gulf $129@130, scrap $125@126; eastern menhaden, meal $133, scrap $125.
Cincinnati: Demand fair; trend steady; supply adequate; $160.
Denver: Demand fair; trend weaker; supply ample; $2.35 a unit of protein, f.o.b. West Coast.
Los Angeles: Demand slow; trend weaker; supply adequate; local production, 60% protein $2.30 a unit.
San Francisco: Demand slow; supply ample; $1.95 a unit of protein.
Ogden: Supply average; $2.20 a unit, f.o.b. Coast; 65% $172@174.
Ft. Worth: Demand fair; supply sufficient; 60% menhaden scrap $128; menhaden meal $133@135, f.o.b. Gulf ports.
Boston: Demand spotty; supply improved; $132.
Louisville: Demand dull; trend steady; supply light; $160, nominal.
New Orleans: Demand fair; trend steady; supply light; menhaden 60% $134@138; scrap $129@134, f.o.b. Gulf.
Portland: Demand slow; supply ample; trend unchanged; $2.30 a unit.
Seattle: Demand fair; trend firm; supply good; $2.43 a unit protein, truck lots (Canadian production).
Buffalo: Demand just fair; trend lower; supply ample; 60% protein menhaden $142 bulk, $148 sacked.
Minneapolis: Fair demand; fair supplies; Gulf menhaden $150, delivered; 60% blended fish meal $180, delivered; 70% herring $2.22 a unit, West Coast.

HAY

Cincinnati: Demand poor; trend steady; supply adequate; by truck—No. 1 timothy $24; No. 1 second cutting green alfalfa $31; mixed $27; wheat or oat straw $19.
Ft. Worth: Demand fair for alfalfa, practically nil for prairie and Johnson grass; supply sufficient; carlots, baled, No. 1 alfalfa $36@38, No. 2 $34@36; No. 2 prairie $26@28; No. 2 Johnson grass $24@26, delivered Texas common points.
Boston: Demand and supply steady; No. 2 timothy $40@42.
Philadelphia: Demand slow; supply light; $25@26.
Ogden: Supply average; $1@1.25 bale; $20 in the barn.
Denver: Demand fair; trend average; supply ample; alfalfa, baled $24@25, new hay, first cutting.
Los Angeles: Slow demand for all grades; adequate supplies; U.S. No. 1 $33@35; U.S. No. 2 leafy $31@32; U.S. No. 2 green $30 @32; U.S. No. 2 $26@28.
Louisville: Demand very dull; trend weak; supply good; No. 1 local hay, any variety $23@24, No. 2 about $2@3 less; straw $18@19; grass or pasturage excellent; lot of critters on grass.
Portland: Demand good; supply ample; trend unchanged; $32.
Wichita: Demand good for prairie, fair for alfalfa; supply short for prairie, good for alfalfa; prairie $19, alfalfa $15@17.
Seattle: Demand fair; trend steady; supply good; alfalfa, U.S. No. 2 green $30, truck lots (new crop).

HOMINY FEED

Chicago: Demand somewhat improved; trend easier; supply ample; $42.50 in carlots.
Boston: Demand fair; supply spotty; $48, bulk.
New Orleans: Demand fair; trend steady; supply adequate; $52@53.
Cincinnati: Demand poor; trend lower; supply adequate; $46.
Louisville: Demand slow; supply light; trend very weak; $47, off $3.50.
Seattle: Demand fair; trend firm; supply good; $57, carlots.
Memphis: Demand poor; trend steady to lower; supply ample; white $46, yellow $48.
St. Louis: Demand slow; trend lower; supply ample; yellow $45.
Buffalo: Demand poor; trend lower; supply good; $48, bulk, Boston.
Kansas City: Demand fair; trend steady; supply adequate; yellow $40 bulk, $3.50 more for sacks.

LINSEED OIL MEAL

San Francisco: Demand fair; supply ample; $83.
Omaha: Demand easy; trend steady; supply tight; 34% solvent $66.80, bulk, Omaha basis.
Boston: Demand slow; supply plentiful; $62, bulk, f.o.b. Minneapolis.
Portland: Demand slow; supply ample; trend unchanged; $87.
Denver: Demand good; trend steady; supply tight; $89.04, sacked, Denver.
Philadelphia: Demand and supply fair; trend unsettled; 34% $84.50.
Los Angeles: Local production, 29% protein—no offerings.
Chicago: Demand and supply fair; trend steady; solvent $61.50, carlots, bulk.
New Orleans: Demand slow; supply ample; trend steady; $84@85.50.
Cincinnati: Demand poor; trend steady; supply adequate; new process $78.50; old process $85.
Ft. Worth: Demand fair; supply limited; Texas production, 34% $80, f.o.b. central Texas mills.
Louisville: Demand slow; trend steady to stronger; supply light; old process $83.50, unchanged; new process $80.50, up $1.
Wichita: Demand good; supply insufficient; 34% $83.50.
Seattle: Demand fair; trend firm; supply limited; 34% protein $90, car loads (Montana).
Minneapolis: Market a little easier at $61 bulk, Minneapolis, for solvent meal, fair production; demand only fair.
Kansas City: Demand slow; trend steady to weaker; no old process offered, little solvent available but enough for demand; solvent meal $60@60.50, bulk, Minneapolis.

MALT SPROUTS

Boston: Demand and supply limited; $42.50.
New Orleans: Demand fair; trend steady; supply adequate; $42@44.
Chicago: Demand and supply fair; trend easier; No. 1 bulk $30; No. 2, uneven weight bags $25.
Cincinnati: Demand fair; trend steady to higher; supply adequate; No. 1 $42.

MEAT AND BONE MEAL

Cincinnati: Demand fair; trend steady; supply fair; 50% meat and bone scraps $85, Cincinnati.
Boston: Demand slow; supply plentiful; $1.30 a protein unit; converted, 50% $77.50.
New Orleans: Demand good; supply ample; trend steady; $90@93.
Ft. Worth: Demand fair; firm undertone; supply sufficient; meat and bone, 50% $85@87.50, f.o.b. or delivered Ft. Worth.
Ogden: Supply normal; $110, in 100-lb. bags.
Omaha: Demand easy; trend steady; supply ample; $90.
San Francisco: Demand fair; supply ample; $1.85 a unit of protein in bulk.
Louisville: Demand dull; trend steady; supply good; $72.50@80.
Denver: Demand and trend steady; supply ample; 50% $88, bagged, truck lots; $85, bulk lots.
Chicago: Demand and supply fair; trend steady; 50% protein, carlots $95.
Los Angeles: Demand slow; trend weaker; supply plenty; 50% protein $1.95 a unit, bulk.
Portland: Demand slow; trend lower; supply ample; $1.95 a unit.
Buffalo: Demand just fair; trend lower; supply ample; 50% meat scraps $80 bulk, $85 sacked.
Wichita: Demand moderate; supply sufficient; 50% $90, f.o.b. plant; 55%, no quotations, no offerings.
New York: Demand fair; trend steady; supply good; 50% $75, 55% $82.50, bulk; 50% $78, 55% $85.50 sacked.
St. Louis: Demand fair; trend steady; supply ample; 50% $90.
St. Paul: Fair demand; adequate supply of meal, raw material tighter; 50% meat and bone meal $90@95.
Seattle: Demand good; trend weak; supply ample; $100, ex-warehouse, 50% protein.
Kansas City: Demand fair; trend stronger on news that kill is under a year ago; supply adequate for present demand; 50% meat and bone scraps $87.50@90.

MILLFEED

Minneapolis: Firmer tone noted late in the week as Kansas City market strengthened and local demand increased; local production curtailed slightly; middlings quoted at $29@30 bulk and $33.50@34.50 sacked; bran $27.50@28 bulk and $32@33 sacked; bran is a little stronger in sympathy with middlings; red dog $42@43.
Kansas City: Demand fairly good; trend steady; supply tight for some types; bran $30@30.75, shorts $40@40.75, sacked; bran $26@26.75, shorts $34.50@35.25, middlings $29.25@30, bulk.
Wichita: Demand fair for bran, good for shorts; supply sufficient for bran, insufficient for shorts; basis Kansas City: bran $30.25@30.75, shorts $38.75@39.25; bran declined 50¢, while shorts advanced $2.00 compared with the preceding week.
Ft. Worth: Demand good; light offerings for immediate; carlots, burlaps, bran $40, gray shorts $48.50; bulk middlings $39.50; delivered Texas common points: 50¢ higher on bran, $3 higher on shorts and $2.50 higher on middlings compared with previous week.
Chicago: The past week has witnessed some readjustment in prices for the various feed commodities but all of these changes were on the moderate side and in rather marked contrast to what had been going on through a great deal of last month. If there was anything much to be said about the state of the market, it is that there was more of a firming-up tendency and there was a rather definite change for the better in that mills seemed to have been in a spot where they were fairly well sold ahead into the following week and consequently, there was little or nothing in the way of pressure of offerings. Trade is not yet on the broad side but it is definitely better than it was. Quotations: carlots, standard bran, sacked $36.50 and bulk $32.50; standard midds., sacked $38.50 and bulk $33.50; red dog, sacked $43 and bulk $37.50.
St. Louis: Demand fair; trend steady; supply ample; bran $35.50@36, shorts $45.50 @46, sacked; bran $31@31.50, shorts $39.50 @40, middlings $34.50@35, bulk.
Cincinnati: Demand poor; trend higher;

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supply adequate; bran $43.50, middlings $45.50.

Louisville: Demand slow; trend slightly stronger; supply good; bran $41.60; mixed feed $46.35; shorts $51.60, middlings $44.80.

Buffalo: Sales of bran and middlings subsided after the flurry of demand late in the previous week but that action pretty well cleaned up shipping positions. Red dog was tight and prices were nominal. There was no pressure on the market although bran and middlings slipped 50¢ on June 10. Bran and middlings were below the West but a little sacked competition showed up from Canada at prices $1.50 to $2 below local levels. Bulk bran ended up $2, sacked gained 50¢; bulk middlings rose $1.50 and sacked was unchanged; bulk red dog jumped $5 and sacked gained $3.50. Quotations June 10: Bulk bran $32, sacked $37.50@38; bulk middlings $34.50, sacked $40@40.50; bulk red dog $40, nominal, sacked $45.50, nominal.

Denver: Demand active; trend steady to stronger; supply ample; shorts $42.25, bran $33.75, mill run $38.

Omaha: Demand good; trend strong; supply tight; sacked bran $30.50; sacked gray shorts $41; bulk standard midds. $31, all Omaha basis.

Boston: Demand and supply good; bran $47, middlings $48.50.

New York: Demand fair; trend upward; supply good; bran $45@45.50, standard midds. $47.50@48.

Philadelphia: Demand spotty; trend unsettled; supply fair; bran $46, standard midds. $49, red dog $53.

New Orleans: Demand fair; trend steady; supply ample; bran $41.50@42.25, shorts $48 $48.75, sacked; bran $37.50@38.25, shorts $45@45.75, bulk.

Memphis: Demand fair; trend steady to higher; supply ample to scarce; wheat bran $38.30, sacked; gray shorts $47.80, sacked; standard midds. $37.20, bulk.

Seattle: Demand fair; trend easy; supply ample; $42, common transit points, carlots.

Portland: Demand slow; trend lower; supply ample; $39.

Ogden: Supply normal; to Utah and Idaho: red bran and mill run $41, middlings $46; to Denver: red bran and mill run $48, middlings $53; to California: red bran and mill run $48.50, middlings $53.50, f.o.b. San Francisco and Los Angeles.

San Francisco: Demand good; supply fair; millfeed $46.50; red bran $48.

Los Angeles: Standard mill run $44, bulk,

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fair demand, steady trend, adequate supplies; red bran $45@45.50, bulk, fair demand, firmer trend, ample supplies.

MINERAL FEED

San Francisco: Demand steady; supply good; all-purpose with iodine $70.

Ogden: Supply normal; $113 in 50-lb. blocks; $103, granular, 50-lb. bags.

Denver: Demand fair; trend steady; supply ample; $155.

Ft. Worth: Demand fair; supply sufficient; all-purpose granules $87, block $94; mineral phosphorus 6% granules $105, block $110; cattle-sheep mineral 7% phosphorus granules $100, block $107; hog mineral phosphorus 3½% granules $87, phosphorus 2% $77 (all in 50-lb. paper bags).

Portland: Demand slow; supply ample; trend unchanged; $45.

Wichita: Demand fair; supply ample; all-purpose with iodine, 50-lb. blocks $97.50, 100-lb. bags $92.50, f.o.b. plant.

Seattle: Demand fair; trend steady; supply good; mixer mineral $48, ex-warehouse; all-purpose mineral $55, ex-warehouse.

Sioux City: 50-lb. mineral blocks 8.2% phosphorus $92; 7.5% phenothiazine sheep mineral blocks $4 each.

MOLASSES

Cincinnati: Demand fair; trend steady; supply adequate; 12¢ gal., New Orleans.

Ft. Worth: Demand diminishing; supply sufficient; blackstrap 14¢ gal., f.o.b. Houston; delivered Ft. Worth, truck $30.64, seller's market price on date of shipment.

Denver: Demand fair; trend steady; supply ample; 11⅝¢ gal., New Orleans; $21.50, f.o.b. West Coast.

Los Angeles: Demand good; trend unchanged; supply adequate; $21.50, bulk, f.o.b. tank cars; $21.75, bulk, f.o.b. tank trucks.

Boston: Demand steady; supply plentiful; 16½¢ gal. in tank cars.

New Orleans: Demand good; supply adequate; trend steady; 12¢ gal., tank cars and trucks; 600-lb. customers' drums $8.33.

San Francisco: Demand and supply good; $21.50, f.o.b. cars, Richmond, Cal.

Louisville: Demand dull; trend easy; supply ample; 11¾¢ gal., tank car lots, f.o.b. Gulf ports.

Seattle: Demand fair; trend easy; supply good; $21.50, f.o.b. Seattle, tank carlots or truck lots.

New York: Demand fair; trend steady; supply good; blackstrap 16¢ gal., tank cars, tank wagons, f.o.b. New York.

St. Louis: Demand slow; trend steady; supply ample; 12¢ gal., New Orleans.

Memphis: Demand poor; trend steady to higher; supply ample; blackstrap 12¢ gal., tank car, f.o.b. New Orleans.

Minneapolis: Demand is slow; supplies ample; stronger undertone; blackstrap, delivered Minneapolis $33.50, tank trucks; no Gulf price reported.

Buffalo: Demand fair; trend steady; supply good; 16¼¢ gal., f.o.b. Albany.

Kansas City: Demand slow; trend steady; supply adequate; 12¢ gal., tank car, New Orleans.

NIACIN

New York: Trend steady; $6 kilo, 10-kilo lots; $6.20 kilo, 5- and 2½-kilo lots; $6.30 kilo, 1-kilo lots; freight prepaid or paid to destination.

OAT PRODUCTS

Cincinnati: Demand poor; trend steady; supply adequate, somewhat tight on reground oats; reground oats $25; pulverized white oats $47@50; rolled oats $83.

Boston: Demand good; supply spotty; white pulverized $57; reground oat feed $29.

Chicago: Demand fair; trend mixed; supply good; reground oat feed $20, carlots; fine ground feeding oatmeal $67, carlots; feeding rolled oats $78, carlots.

Ft. Worth: Demand poor; supply sufficient; oat millfeed $46.70, reground $28.20.

Louisville: Demand slow; trend easy; supply fair; reground $28.30; rolled $81.80; feeding $76.30; pulverized white $52.30; crimped white $69.30.

Philadelphia: Demand slow; supply fair; pulverized white $53; Canadian oat feed $32, domestic $30.50.

Los Angeles: Demand fair; trend unchanged; supply adequate; local production $62.

Portland: Demand slow; supply ample; trend unchanged; rolled $66; ground $63; cleaned $65.

Memphis: Demand poor; trend steady; supply light; 3½% protein, reground oat feed $26.75.

Seattle: Demand and supply fair; trend steady; $53, bulk, truck lots.

Minneapolis: Oat products firmer following stronger Minneapolis cash market resulting from export demand; reground oat feed scarce and strong at a nominal $21; feeding rolled oats $51; feeding oatmeal $69.50; pulverized $44.50; crimped $59.

OYSTER SHELL

Boston: Demand slow; supply steady; $26.02 in paper.

Cincinnati: Demand fair; trend steady; supply adequate; $24.45.

Los Angeles: Demand slow; trend unchanged; supply ample; $14.80.

New Orleans: Demand and supply good; trend steady; $24@24.50.

San Francisco: Demand fair; supply ample; local $16, eastern $26.

Louisville: Demand and supply good; trend steady; in 80-lb. bags $23.45; in 50-lb. bags $23.70; in 25-lb. bags $25.45.

Portland: Demand good; supply ample; trend unchanged; western $34, eastern $39, granite grits $28, shell flour $24.

Seattle: Demand and trend steady; supply good; eastern $36, carlots.

PEAT MOSS

Boston: Demand and supply steady; $3.15 bale.

Philadelphia: Demand good; supply nil; $2.95, f.o.b. pier, nominal.

Chicago: Demand quiet; trend steady; supply good; standard 7⅛ cu. ft. bales $3.85@3.95.

San Francisco: Demand and supply fair; $3.85 bale.

Los Angeles: Demand fair; trend unchanged; supply ample; Canadian 6.1 cu. ft. bales $3.75.

Portland: Demand good; supply ample; trend unchanged; $3 bale.

New York: Demand good; trend steady; supply short; Canadian, 7 cu. ft. bale, veneer wrapped $3.32, f.o.b.; German, 7½ cu. ft. bale $2.95, at dock, New York.

Seattle: Demand and supply good; trend firm; $2.80, bale, truck lots.

POTASSIUM IODIDE, U.S.P.

Cincinnati: Demand good; trend steady; 90% KI in calcium stearate or carbonate mixtures: 250-lb. drums $1.35; 200 lb. in 100-lb. drums $1.35; 100-lb. drums $1.38; 25-lb. drums $1.41, f.o.b. Cincinnati.

Chittenango, N.Y.: Demand good; supply adequate; 90% KI stabilized with calcium stearate, 200 lb. in 100-lb. cartons $1.30; 100-lb. cartons $1.32, 25-lb. cartons $1.45; freight paid to destination.

POULTRY BY-PRODUCTS

Ft. Worth: Demand and supply fair; 55% protein $100, f.o.b. north Texas plants.

Boston: Demand fair; supply ample; $85, f.o.b. shipping points.

Los Angeles: Demand fair; trend weaker; supply adequate; $1.75 a unit of protein.

Salisbury, Md.: Good demand; supply rather limited; steady trend; $98, bulk, producers' plants; sacks $4 more.

RIBOFLAVIN

Cincinnati: Trend steady; feed grade (in feed supplements) 4¢ gram in less than ton lots, in 3.36 to 16 gm./lb. mixtures; 3¢ in ton lots or more; freight prepaid or paid to destination.

New York: Trend steady; feed grade (in feed supplements) 4½¢ gm. in 3.36 to 16 gm./lb. mixtures, freight prepaid or paid to destination.

RICE BY-PRODUCTS

Los Angeles: Demand slow; trend unchanged; supply adequate; bran, California production, high fat content $51.

Ft. Worth: Demand slow; offerings light; carlots, rice bran $33@34, f.o.b. south Texas rice mills; hulls $6.50, f.o.b. mills.

San Francisco: Demand good; supply ample; bran $45; polished $49.

SCREENINGS

Cincinnati: Demand fair; trend steady; supply adequate; ground screenings $39.

Chicago: Demand quiet; trend easier; supply fair; ground grain screenings $30.50; Canadian $21.

Ft. Worth: Demand nil; supply light; ground grain $30@32.

Buffalo: Demand fair; trend steady to lower; supply good; ground, sacked $29.75, New York, lake and rail; unground, bulk $23.75, New York.

Minneapolis: Limited supplies; very slow demand; no flaxseed screenings available; lights $4@14; mediums $15@24; heavies $25@34; Canadian bulk $14; Canadian ground $23; flaxseed screenings $36; oil type flaxseed screenings $45, basis 15%.

SOFT PHOSPHATE WITH COLLOIDAL CLAY

Atlanta: $20.40@20.67.
Buffalo: $25.31@25.45.
Chicago: $24.77@24.90.
Cincinnati: $23.47@23.60.
Des Moines: $25.23@25.35.
Kansas City: $24.88@25.
Memphis: $22.20@22.47.
Minneapolis: $25.92@26.06.
Philadelphia: $24.32@24.95.
St. Louis: $24.14@24.27.

SORGHUMS

Ft. Worth: Demand fair; light offerings; carlots, bulk, No. 2 yellow milo $2.45@2.48, delivered Texas common points.

Los Angeles: Demand fair; trend weaker; supply adequate; milo $2.65 cwt., bulk.

SOYBEAN OIL MEAL

Ft. Worth: Demand fair; supply sufficient; carlots, southern origin, 44%: June $67.60, July-September $69.10; 50% protein, immediate $75.20, last week June $75.70, July-September $79.

Cincinnati: Demand poor; trend steady; supply adequate; $53.50, bulk, Decatur.

Omaha: Demand good; trend strong; supply tight; 44% $57.60, bulk.

Los Angeles: Demand slow; trend unchanged; supply fully ample; $75.40.

Boston: Demand fair; supply adequate; 44% $49, 50% $59, both bulk, f.o.b. Decatur.

Louisville: Demand slow; trend steady; supply ample; $63.20.

Philadelphia: Demand and supply fair; 44% $50.50, bulk, Decatur.

New Orleans: Demand fair; trend steady; supply ample; $62@63.

Denver: Demand good; trend steady; supply tighter; $68.50.

Chicago: The feature this week has been the relative strength shown in the 50% protein offerings. While 44% meal was running from unchanged on the unrestricted to 50¢ ton off on the eastern restricted, offerings of the 50% unrestricted were boosted $3 ton and the eastern restricted was up about half that amount. It was claimed that one of the reasons for the relative strength in the higher protein offerings was that some of the processors had curtailed production to some degree. Compared with a week ago, July soybean meal futures closed about 75¢ ton lower June 10 and August was down about forty points. Quotations: 44% protein, Decatur basis, per ton, unrestricted $53.50@54; eastern restricted $49.50; 50% protein, unrestricted $61 and eastern unrestricted $57@57.50.

St. Louis: Demand fair; trend steady; supply ample; 44% $64.

Memphis: Demand slow; trend steady; supply plentiful; prime 44% solvent $60.

Wichita: Demand slow; supply ample; 44% $66, 50% $74, f.o.b. Wichita.

San Francisco: Demand good; supply ample; $79.40.

Ogden: Supply average; $81@86.

Portland: Demand slow; supply ample; trend unchanged; $48, f.o.b. Decatur.

Seattle: Demand fair; trend steady; supply ample; $80, carlots.

Minneapolis: Demand fairly good, but production continues ample and price is steady at $47.50, bulk, Decatur, for 44% and $54.50 for 50%.

Kansas City: Demand light in this area, more further north; trend steady; supply ample; meal for Kansas City $51.50, bulk, Decatur; unrestricted $53.

TANKAGE

Chicago: Demand fair; trend steady; supply adequate; 60% protein $95, carlots, in 100-lb. bags.

Omaha: Demand easy; trend steady; supply ample; $90.

Cincinnati: Demand fair; trend steady; supply good; 60% digester $85, Cincinnati.

Wichita: Demand moderate; supply sufficient; 60% $90, f.o.b. plant.

Ft. Worth: Demand slow; supply light; 60% digester $91, Ft. Worth.

New Orleans: Demand slow; supply adequate; trend steady; $94.50@97.

Louisville: Demand dull; trend steady; supply good; 60% protein $72.50@80.

St. Paul: Fair demand; adequate supply; raw material a little tighter; 60% digester $89@95.

Kansas City: Demand slow locally but good further north, taking supplies out of this area; trend steady; supply adequate; 60% digester $85.

VEGETABLE AND ANIMAL FAT (HYDROLYZED)

Ft. Worth: Demand good; limited offerings; 6½¢ lb., f.o.b. north Texas area.

VITAMIN E FEED SUPPLEMENT

Cincinnati: Demand good; trend steady; any quantity in 100-lb. drums $1.50; in 25-lb. drums $1.55; freight allowed to destination.

Rochester, N.Y.: Demand and supply good; trend steady; 100-lb. drums $1.50 lb., 25-lb. drums $1.55 lb., f.o.b. manufacturing plants, freight allowed and goods insured to destination.

New York: Demand and supply good; trend steady; 100-lb. drums $1.50 lb., 25-lb. drums $1.55 lb., f.o.b. manufacturing plants, freight allowed and goods insured to destination.

WHEAT GERM MEAL

New Orleans: Demand fair; trend steady; supply fair; $67@69.

Chicago: Market is down seasonally and production continues ample; $63@68.

Buffalo: Demand poor; trend steady to lower; supply fair; commercial grade $65.

EASTERN

(Continued from page 1)

estimated that a lower feed cost in the South accounts for 1.7¢. Other higher production costs in the Delmarva area include labor, chicks and equipment.

Higher shipping costs for the southern producers who market birds in the metropolitan New York area reduce the 2.9¢ differential to about 1¢, it was brought out or, as one speaker said, it costs the Delmarva producer about 1¢ per pound more to place broilers in the northeastern market than it does the Georgia producer.

Representatives of a number of organizations interested in the poultry production industry in the Northeast held a meeting during the afternoon of June 9. It was the consensus of the group that an adjustment or equalization of freight rates on feed ingredients offered the best means of narrowing the gap between northeastern and southern producers.

James Davis, General Mills, Inc., Seaford, Del., presented a series of statistical charts and distributional maps to point up the inequality in freight rates between southern and northeastern feed manufacturers.

As a result of his presentation, it was agreed that a reduction of $4 a ton on shipping charges for corn out of the Midwest and a reduction of $7 a ton on soybean oil meal shipping charges "would go a long way" in making Delmarva producers' competitive position more equal.

Action Committee

John C. Bressette, Wirthmore Feeds, Waltham, Mass., was named chairman of an action committee appointed to prepare the group's presentation before the Interstate Commerce Commission. The committee has scheduled its first meeting to be held in New York City June 22-23.

What's to Be Done?

Dr. W. E. McDaniel, chairman of the department of agricultural economics, University of Delaware, was a participant in a panel discussion which dealt with eastern trade problems, and his topic was "Regional Competition in Poultry Products" and "What's to Be Done to Preserve Northeastern Markets for Producers in This Region?"

The economist produced a considerable amount of statistical data to show the changing trends in agricultural production, and the gist of his advice was that the Delmarva producer has got to stay on his toes and cut production costs in every way possible if he hopes to stay in business.

Irving Lintner, Sunrise Milling Co., Somerville, N.J., another of the panel speakers, discussed feed management problems. During his talk he said that the area needed more grain storage facilities and oilseed processing plants. He emphasized this need by pointing out that last year about 3,400 cars of soybeans were shipped out of

the region to be processed, along with a steady increase in corn production in the area.

Howard N. Stark, sales manager for Limestone Products Corp. of America, Inc., Newton, N.J., was the third member of the panel, and his topic was "Dealer Merchandising Improvements." Mr. Stark reiterated the advice of previous speakers on the program when he told the feed merchants that they would have to change their ways of doing business to meet the changes in merchandising practices generally facing American agriculture.

Officers Elected

S. B. Rhoads, Rhoads Milling Co., Selinsgrove, Pa., was elevated to the presidency of the association, succeeding Richard S. Demarest, Stamford, N.Y. Mr. Rhoads had served during the past year as first vice president.

Other officers named at the business meeting included Raymond F. Weld, Weld-Cox Co., Middletown, N.Y., first vice president, and Gordon Slosberg, Yantic Grain Co., Norwich, Conn., second vice president.

Austin W. Carpenter was reappointed executive director, secretary and treasurer of the association. Howard J. Benson will continue as Mr. Carpenter's associate director.

It was announced that the 1960 convention will return to Whiteface Inn, Lake Saranac, N.Y., scene of the 1958 meeting.

A golf tournament was the entertainment feature of the convention, and there were 25 foursomes entered. James Colton, Amburgo Co., was chairman of the golf committee. Prizes were awarded at the banquet during the evening of June 9. The following companies donated prizes for the event: Amburgo Co., "Chain Gang," Commercial Solvents Corp., Distillation Products Industries, Inc., Industrial Molasses Co., National Molasses Co., and Keevily Corp.

Attendance was approximately 250.

SALSBURY

(Continued from page 1)

about the status of certain drugs, including arsenicals, as feed additives in relation to the new Food Additives Amendment of the Federal Food, Drug and Cosmetic Act.

"The Food Additives Amendment, of course, is intended to protect the health of the American public. This is an admirable and desirable objective. Certainly, officials should weigh the public interest carefully before agreeing to permit the use of any drug product.

"Through advances in animal agriculture, the consumer is able to enjoy better products—meat, milk and eggs—more economically than ever before. Contributing in great measure to the production of this food supply is the feed industry, which has developed poultry and livestock nutrition to a new peak almost every passing year. Most feed men will agree that the growth-promoting and health-protecting additives developed by the pharmaceutical and chemical manufacturers have been an important factor in producing greater feed efficiency. In fact, animal health has never been better, and these two factors—improved nutrition and lower disease level—have been largely responsible for the gains in food supply in the face of a rising population.

"There is in existence substantial evidence that organic arsenicals do not impose hazards to the food supply from the standpoint of drug residues in the tissues of slaughtered animals or in their products. Evidence of the safety of organic arsenicals, including 3-nitro-4-hydroxyphenylarsonic acid, has been submitted to the Food and Drug Administration in the past, additional evidence will be submitted in the very near future.

"It is the hope of Dr. Salsbury's Laboratories that the concern about arsenicals and their relationship to the feed and agricultural industries, and ultimately the consuming public, will be soon dispelled. We are convinced that 3-nitro-4-hydroxyphenylarsonic acid is not harmful to chickens or swine, or to the human population consuming poultry, pork, or other products. We believe that, for the continued good of animal agriculture and the public, efficient food production should be fostered. We believe that research and development among the pharmaceutical and chemical producers must be continued to provide the products essential to food production. Therefore, it seems to us that officials should also carefully weigh the public interest in all of its ramifications before denying the right to use any drug products that have proved beneficial with no evidence of injury."

DRUG STATUS

(Continued from page 1)

official said they were continuing to mail out to feed manufacturers refusals of supplementary or amended applications if the feeds contain estrogens or arsenicals. These are applications which are required under new drug applications and in certain circumstances under antibiotic regulations when feed firms plan new or changed products.

However, at the same time, it was pointed out there are various circumstances which do not bring feeds or certain additives under FDA review, and in these cases there is currently no question about continued or new uses of estrogens and arsenicals. As explained earlier, the policy statement does not rule out use of either estrogenic or arsenical products now being used in feeds, although new uses or certain formula changes are not permitted if regulations require the feeds to come under FDA review.

In general, an FDA official explained, use of substances classed as new drugs or subject to certification can mean FDA review of the feeds. But with certifiable antibiotics, there are certain exemptions. Also, additives classed as not new drugs are not involved in the current problems if they are not used in combination with substances that can bring the feeds under FDA review.

(A statement in a June 6 Feedstuffs story to the effect that a feed manufacturer not now using estrogenic or arsenical products will not be able to include them in his feeds should have been qualified with an additional phrase indicating that this is the case if an FDA review is required. If there is no requirement of an FDA review for other reasons, certain arsenicals can be added to feeds even though not used previously.)

It may be noted that some of the arsenicals, including arsanilic acid and 3-nitro-4-hydroxyphenylarsonic acid, are among the additives classed as not new drugs. It is understood that even though such products have not been used previously in a feed, they may be added to poultry and swine feeds if there is no other medicament in the feed, such as a new drug, which could require FDA review. For example, an arsenical classed as an "old" drug could be added for the first time to various poultry feeds, including laying and other feeds, without other medicaments. Among poultry feeds, it is said to be mostly broiler feeds containing new drugs, that present problems.

Also, combinations of arsenicals and antibiotics in poultry and swine feeds are exempt from new FDA review under various circumstances. This is based on certain presently effective regulations, including application to some drug combinations.

As noted above, an FDA official pointed out that certain arsenicals which have been used for some time are not in themselves subject to FDA review even if used for the first time. On the other hand, there are some newer products which come under new drug or other regulations and may not be added to feeds if not used prior to issuance of regulations affected by the Delaney amendment.

Commenting on supplementary applications submitted in recent weeks by feed firms, an FDA official said the agency is refusing all applications where stilbestrol is involved on grounds that it is a "known carcinogen" under laboratory data which FDA has.

It also was noted that since stilbestrol is classed as a new drug, applications are required to make certain changes in feeds which would contain this substance, and these applications are not permitted to become effective.

The official said that supplementary applications where arsenicals are involved in the feed are being "tentatively" refused because the substances as a group are regarded as "suspect." He indicated these refusals could be lifted upon submission of data specifically showing a substance to be non-carcinogenic.

SEDATIVE

(Continued from page 1)

Huston and Dr. May believe scalding of birds before plucking can be eliminated.

In announcing the discovery, George H. King, director, University of Georgia College of Agriculture Experiment Stations, was careful to point out that results thus far are preliminary and that several problems must be solved before the sedative can be used commercially.

"This in no way diminishes the commercial significance of this research, however," Mr. King declared. "We are confident that in good time all difficulties involved in using this method commercially can be solved by research."

He said the major problem in regard to commercial use of the method is the possibility of residue of the drug used being left in the meat of the birds. Such residue, if any, would have to pass inspection and gain approval of the Pure Food & Drug Administration before birds fed the drug could be sold commercially.

Although to date sufficient analysis of the meat of treated birds has not been made to determine the presence or lack of sedative residue, Dr. Huston and Dr. May plan such analysis as the next step in this research project.

Dr. Huston and Dr. May, who began their experiments with this sedative Sept. 8, 1958, have since treated and processed a sufficient number of birds under commercial conditions to be confident of the method's commercial success. On June 4, 1959, for example, 700 eight-week-old broilers anesthetized by feeding the drug-treated, pelleted feed were slaughtered and dry plucked at a commercial processing plant. Plucking was judged to be 95% effective. With certain modifications in the picking equipment, commercial processors in whose plant the method was tried believe a completely effective plucking can be obtained on similarly treated birds.

INDIANA

(Continued from page 1)

tempt is needed to again approach this problem of establishing a more conservative, businesslike principle for fede contracting, and particularly to remedy the still prevalent practice of guaranteeing bookings against decline. The board of directors of AFMA has approved the recommendations of the Sales Executive Council and is recommending that the industry restrict bookings to shorter time periods and particularly to discontinue the practice of guaranteeing contracts against decline . . .

"In 1930, the industry moved promptly to eliminate dairy feed contract sales guaranteed against decline. I think it is time the industry eliminated the guarantee against decline for cattle feeds, too. We must again restate and demonstrate our own regard for the sanctity of contractual obligations, without a proper appreciation of which no business can successfully and economically operate . . .

"Purchasing ingredients against cattle feed contracts, creating competition with other segments of animal agriculture for these same proteins, is undoubtedly unavoidable. But to book these proteins on firm contracts with oil meal processors without a guarantee covering any market loss in the purchase, creates several jeopardies in the transaction."

Mr. Riggs pointed out that he has no quarrel with contracting as such. But he emphasized that he feels contract guaranteeing against price decline should be discontinued.

"Unless the practice is stopped," he said, "it may eventually spread to other feed categories. Is there any justification for booking an Iowa farmer for the feed required for 200 steers guaranteed against decline and not booking the same farmer the turkey feed he needs to feed out 10,000 turkeys guaranteed against decline? Currently this question is being raised."

With contract farming, he continued, it is understandable that some producers of meat, milk and eggs may want to freeze their feed costs as much as possible. But, he added, "the freeze should be at the contract prices—not refreezing and refreezing during the life of the contract if markets decline.

"I can see no compatibility in a soybean processor shipping the Quaker Oats Co. tens of thousands of tons of soybean meal at firm contract prices, and at the same time turning around and offering the same soybean meal in cattle feeds guaranteed against decline to a rancher or a feedlot operator who wants to book 50-100 tons of cattle feed in the fall.

"If a contract feeder wants his price frozen through a contract, my opinion is that it should be frozen—but only when he understands that it is his guess and that he will be responsible for his guess."

Eliminating guarantees against decline will make better salesmen out of feed sales forces, said Mr. Riggs. The industry will again be competing in services and nutrition. This competition, he said, is good; it squeezes out inefficiencies and tends to benefit the industry through providing better and better services and nutrition.

"I think perhaps the stockman is more willing to accept this viewpoint than some members of the feed trade," Mr. Riggs commented. "He can, of course, stop buying manufactured rations and purchase straight proteins, as many do. But protein sales are on a firm basis. No processor that I know of will sell a car of meal guaranteed against decline . . .

"Is it sound business for us to call and recall and sell and resell contracts that should have been made in good faith in the beginning? Is there really any necessity for it?"

Mr. Riggs suggested that a solution might be a standardized cattle feed contract along the lines of the standard bakery flour contracts used by flour millers. Some feed manufacturers' contracts provide that any market losses, or costs resulting from failure of delivery, will be absorbed by the purchaser. "Yet," said Mr. Riggs, "we know this feature is not being enforced on cattle feed buyers. I know of no cattle feed contracts that specifically state that the price is guaranteed against manufacturers' own price decline."

To book against decline, the seller must need a cushion for possible losses, Mr. Riggs said. So, he added, if the practice were done away with, all cattle feed buyers, whether they contracted or not, would be able to receive cattle feeds at lower prices.

GROWING PAINS OF THE FEED

Chicks Placed in Principal Broiler Areas

(000's omitted)

Week ending	Maine	Conn.	Penn.	Ind.	Ill.	Mo.	Del.	Md.
April 4	1,229	611	985	877	174	885	1,914	2,021
April 11	1,187	596	865	911	182	882	1,833	1,904
April 18	1,215	598	927	871	218	748	1,985	1,729
April 25	1,350	602	735	930	173	711	1,720	1,914
May 2	1,234	666	840	843	191	843	1,986	1,711
May 9	1,240	601	736	873	106	702	1,996	1,649
May 16	1,232	566	855	775	144	782	1,908	1,637
May 23	1,240	533	888	885	99	756	1,672	1,884
May 30	1,267	664	786	759	135	670	1,753	1,832
June 6	1,275	505	844	872	123	733	1,699	1,832

Week ending	Va.	W. Va.	N.C.	S.C.	Ga.	Fla.	Ala.	Miss.
April 4	1,356	637	3,307	413	7,173	264	3,712	2,540
April 11	1,247	676	3,332	375	7,382	214	3,640	2,657
April 18	1,072	681	3,287	390	7,477	220	3,600	2,633
April 25	1,025	694	3,313	338	7,319	193	3,767	2,690
May 2	1,220	601	3,213	326	7,244	222	3,802	2,531
May 9	1,197	633	3,300	320	6,996	205	3,506	2,267
May 16	1,241	737	3,128	336	7,165	196	3,493	2,416
May 23	1,251	585	2,933	337	7,053	211	3,446	2,498
May 30	1,223	723	2,998	365	6,951	188	3,404	2,465
June 6	1,243	575	3,016	351	7,002	178	3,413	2,485

Week ending	Ark.	La.	Texas	Wash.	Oregon	Calif.	Total 22 areas 1959	1958
April 4	3,745	559	2,610	352	258	1,207	36,829	31,793
April 11	3,618	488	2,473	329	271	1,245	36,307	33,156
April 18	3,625	485	2,600	326	273	1,173	36,133	33,291
April 25	3,567	468	2,684	418	267	1,188	36,066	33,667
May 2	3,465	500	2,455	375	258	1,054	35,580	33,930
May 9	3,527	473	2,131	369	219	1,055	34,101	34,910
May 16	3,479	396	2,023	343	244	1,091	34,187	35,504
May 23	3,428	394	2,097	399	244	995	33,828	34,390
May 30	3,501	423	2,200	371	227	987	33,892	34,532
June 6	3,551	400	2,312	377	268	1,033	34,087	34,562

INDUSTRY—Some of the "growing pains" of the young and rapidly expanding feed industry were pointed out by Dr. J. L. Krider, vice president of the Central Soya Co. and its feed division, McMillen Feed Mills, Ft. Wayne, Ind. While there are these growing pains, Dr. Krider also cited the industry's great potential, with an expanding population and demands for better foods.

Discussing various trends and problems, he noted that the industry needs carefully charted and executed personnel development programs if it is to go forward. In this connection, he mentioned another growing pain—the need to sell young men on opportunities in the industry.

Also, he said, "let's sell our end products — meat milk and eggs. They're a good buy . . . Let's sell the quality of our product—good nutrition in formula feeds, and let's sell the performance of them. Many in the feed industry have not carried this message with sincerity and forcefulness to their customers."

Integration or contract farming, Dr. Krider noted, is no longer a coming growing pain in several segments of agribusiness—it is here. He went on to say: "Whether we in the industry think it is good or bad or whether a specific contract is bad or good; whether we call it integration or contract farming, or just plain cooperation for profitable and efficient production and distribution of farm commodities, it all boils down to simply producing the right quality of products for a market . . . Whether we will have more or less contract farming in the future will be determined by the results of today and tomorrow."

Dr. Krider also commented on such developments as the increase in the use of grain bank systems; the increased number of feed additives, which now number more than 100; and the expansion of bulk delivery.

Noting other developments, he observed that there is a tendency to decentralize in the feed business. "Feed manufacturers," he said, "are decentralizing to provide better services. Also, the custom mixer who has grinding, mixing and grain storage facilities is a small feed manufacturer in his own right . . . However, this mixer needs counsel and technical services from the formula feed manufacturers who serve him."

The importance of good public relations was pointed out by Dr. Krider. In this connection, he urged taking a serious look at relationship with government.

"The feed industry," he declared, "has a moral obligation to enlighten and work with its representatives in government, as well as the public, about business. More than this, we must emphasize that it must be 'free' enterprise business if it is to continue to grow and expand."

H. George Wolfe

CHAIRMAN—H. George Wolfe, advertising manager, chemical division, Merck & Co., Inc., Rahway, N.J., has been named chairman of the chemical group of the Association of National Advertisers. Clem W. Kohlman, advertising manager, industrial chemicals division, American Cyanamid Co., was named vice chairman of the ANA chemical group.

WASHINGTON REPORT — A. E. Oliver, executive vice president, Grain & Feed Dealers National Assn., Washington, told the delegates that the grain industry is in the national spotlight because of the wheat surplus problem. He said some commentators were calling the grain storage story "the hottest story outside of the Geneva conference."

Everyone down to the taxi driver is watching the grain storage subject and talking about it and the general public believes the grain trade has made a big killing in storing government grain, Mr. Oliver said. What the public does not know is that grain handling rates have not increased since 1949 and storage rates have not gone up since 1954, he added.

Some of the most damaging information has come from the grain trade itself, he stated, and cautioned grain men to be extremely careful and accurate in giving out information and figures to congressmen and news writers. The grain trade faces a big public relations job to correct the misinformation about grain storage that has reached the general public, he said.

The feed trade in the East is under fire because of the low egg prices, Mr. Oliver said. People always look around for someone to blame when any segment of the economy gets into trouble, he said.

SUPPORTS AND STORAGE — Comments on the government price support programs and grain storage problems were made in a talk by Raymond J. Pollock, director of the grain division in the Commodity Stabilization Service, Washington. Mr. Pollock pointed out that the support programs "have obviously failed to do all the job they were adopted for in the beginning." To some extent, the programs have helped bring about orderly marketing, but in other respects they have failed.

Mr. Pollock said reasons for the failure include the following: (1) Increased technology of producers or improved know-how served to defeat the concept of controlled production. (2) If a real control program was ever intended, then the controls have never been tight enough to prevent surplus accumulations. (3) It is doubtful whether producers ever wanted to be controlled in the first place; many seem to think that it is the other fellow who should make the reduction.

Mr. Pollock spoke enthusiastically of export programs, and he praised the trade for its cooperation. He also complimented the trade for its help in furnishing space needed for additional grains taken over by the government under support programs. He asked continued cooperation to the end that the government would get no further into their business than it already has. He said he felt the producer should accept more responsibility in restorage of excess grain.

PRESIDENT'S REMARKS — Lucian A. Garner, the Quaker Oats Co., Lawrenceburg, Ind., as part of his talk, pointed out the big increase in truck movement of grain. To show how trucking has increased, he mentioned examples from three large operators. These truckers, he said, are not just haulers; they are merchandisers as well. One firm which had a small trucking business in 1950 now handles more than a million bushels a year. A second operator did about a million bushel business in 1950 but now buys, sells and does contract hauling of 5 to 6 million bushels of grain a year. A third operator buys and sells 1.2 to 1.5 million bushels a year and in addition does contract hauling amounting to $300,000 in revenue; in 1950 he did less than 25% of this volume.

A country elevator operator who does business on a large scale trucked out less than 25% of his corn in 1950. Now he trucks out more than 80%. His wheat still goes out mostly by rail.

Mr. Garner said the rail rate from Cincinnati to a certain southern point is 50¢ cwt. or 30¢ bu. on wheat. He said truckers can be hired to cover the same distance and to the same point for 18 to 20¢ bu. on wheat.

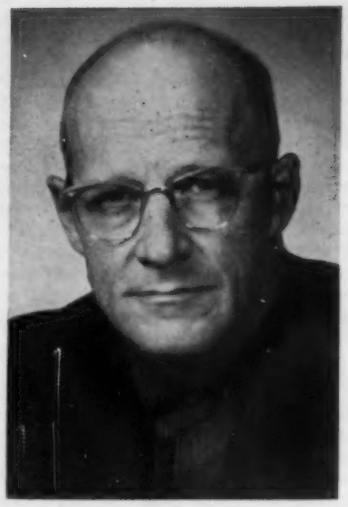
In commenting on grain trucking, Mr. Garner advised dealers not to do business with truckers except on a cash basis, except for the large operators that are financially and morally stable.

Contests

Fifty-three men and one lady played golf. George Danke and Paul Landschulz tied for low gross 74. On a coin flip, Mr. Danke was awarded the championship trophy and Mr. Landschulz was awarded a set of Spaulding woods. Thirty-five other players received runner-up prizes.

Morris Champion, Central Soya Co., Ft. Wayne, Ind., took first prize at horse-shoe pitching. Other prize winners were George Bischoff, Ralston Purina Co., Lafayette, Ind.; Gene Byer, Columbia City, Ind.; George Lenninger, Tipton; Paul Howard, Fort Wayne; Ben Parsons; Park Meyer, Stone Mountain Grit Co.; John Walker and C. R. Busler.

Paul Eberhart, Schenley Distillers, Inc., Cincinnati, Ohio, won the bait casting contest. His wife, the only lady contestant, was among the other prize winners, which included J. Steinhart; L. A. Garner; C. Hutton; F. King; J. Middlekamp and D. Dauler.



C. M. Langfeld

C. M. Langfeld Joins American Mill Service

MINNEAPOLIS — C. M. (Larry) Langfeld has been appointed manager of American Mill Service Co., Minneapolis, it was announced by Sol Leader.

Mr. Langfeld was formerly with Pro-Vid-All Mills of Litchfield, Minn., as nutritionist and head of the firm's broiler feed sales. He was general manager of the Hilltop Farm Feed Co., Minneapolis, prior to moving to Litchfield. He has been in the feed business for 10 years.

Mr. Langfeld's new duties will include the sale of American Mill Service Co.'s meat meal, meat and bone scraps, fish meals, vitamin A and D feeding oils and other products.

Oregon Poultry Group To Convene June 18

PORTLAND, ORE.—The 39th annual meeting of the Oregon Poultry & Hatchery Assn. will be held June 18 in Withycombe Hall, Oregon State College, Corvallis, according to Ben Mitchell, Beaverton, association president.

A special program will be presented which is designed to interest all hatcherymen, producers and allied industry representatives, he said.

The association will also honor two of its patrons and charter members, Fred Cockell and Ambrose Brownell, who have served Oregon's poultry industry during the past 39 years. They are both past presidents of the association as well as the American Poultry & Hatchery Federation.

Social activities will include a fellowship hour at 5:30 p.m. in the Benton Hotel, to be followed by the annual banquet at 6:30 p.m. Dr. Jesse Parker, head, poultry department, Oregon State, will serve as toastmaster.

March Fish Meal Output Shows Drop

WASHINGTON—Fish meal and scrap production in the U.S. and Canada in March was down 36% from the same month of 1958, the Fish & Wildlife Service has announced. March production was over 2,000 tons.

A total of nearly 291,000 gal. of fish solubles was produced during the month—an increase of 75,000 gal. over March, 1958.

For the first quarter of 1959, production of meal and scrap was 7,300 tons—656 more than were reported during the same period of last year.

HURT IN TRACTOR MISHAP

DES MOINES—Stephen Fox, 16, son of Edwin L. Fox, president of Foxbilt, Inc., Des Moines, was injured June 8 when the tractor he was driving overturned, pinning him beneath the wheel. He suffered a fractured lumbar vertebra, broken arm and lacerations. He is recuperating in Iowa Methodist hospital.

MARKETS

(Continued from page 2)

running time as being about steady, with the slower feed mills cutting back on their production. Chick placements in the Southeast were reduced slightly last week in all the states, with the exception of North and South Carolina, which showed a slight increase from the previous week. North Georgia broiler prices remain practically unchanged at 14@14½¢ lb. f.o.b. the farm, and there is no indication of any improvement this week, due to heavy supplies.

Cattle and hog prices remain about steady. Dairy feed business in Florida is reported on the slow side, due to excess quantities of milk in storage. Many ranchers report that it will be sometime in late August or September before they will be feeding beef cattle in volume. Feed ingredients buyers continue to purchase their major proteins on an as-needed basis.

Soybean meal for June is beginning to back up at some of the southeastern mills, and prices were reduced as much as $1 to $1.50 this week for immediate through June shipment. However, the processors are not inclined to reduce prices for July shipment. With practically no demand for cottonseed meal, some southeastern mills reduced their prices by as much as $3 ton for quick shipment. The recent increase in prices for citrus pulp and good pastures in the southeast have slowed down shipments of citrus pulp considerably within the last two weeks.

Central States

The commercial mixed feed market took a slight turn for the worse as far as demand is concerned during the week ending June 10. Manufacturers were fairly unanimous in reporting that the first ten days of the current month have been on the unsatisfactory side. Some were attributing the letdown to the fact that farmers in this area were engaged in finishing field work on corn and soybeans and, consequently, had been neglecting their inventories. This in turn was reflected in a lessened demand on the part of country dealers.

In addition, there have been the same three factors that have tended to restrict demand to some degree during the entire early summer . . . i.e., wonderful pasturage, poor markets for broilers, and nothing in the way of improvement in the egg price situation.

Mills are busy cleaning up the end-of-the-year contracts and are generally operating on a full five day week basis.

South Central

Feed demand seems to have settled down to a fairly even level during the last week or two. Apparently, the usual spring period of unexpected up and down swings in demand is over for this year. Mill operating time holds quite generally to the normal five-day regular shift basis.

Now that business has smoothed out, giving feed manufacturers a chance to see what they have and to assess their summer prospects, most appear to be pretty well satisfied. Business isn't gaining over that of last year, but it isn't slipping behind either and prospects are considered fairly favorable for the next few months.

The only section of business that is in a downward trend is the poultry feed line. There is a fair volume coming in from this source now and it is likely to continue into this fall. But the light movement manufacturers had in chick feeds is bound to react in sharply reduced layer demand next winter. More than offsetting this is the outstanding record being marked up in hog feed sales and the probability of an unusually good cattle feed season coming up a few months ahead.

Ohio Valley

For the first time in more than a decade, all Ohio Valley feed manufacturers were in accord this week. Business currently is the dullest it has been this year to date. "It looks like, for the first time this year, our sales tonnages will drop below those recorded last year," an executive of a major local feed manufacturing firm said. "While we can't assign any specific reasons for the sales drop, we are taking it in stride, knowing that eventually there will be a business upturn. We don't anticipate any prolonged recession in the formula feed business," he declared.

Another manufacturer said he looked upon the current period of sales stagnation as "a period of adjustment," with an improving trend likely to become evident "within a month to six weeks."

It was generally admitted that the present situation, insofar as sales of egg and poultry feeds are concerned, is resulting from the continuing low prices for these farm products. While egg prices remained steady this week at area wholesale markets, fryer prices were generally ½¢ lower, with offerings remaining too heavy to be readily absorbed. The U.S. Department of Agriculture reported egg prices ranging from 28¢ for jumbo whites to 14¢ for undergrades; while live poultry ranged from 6¢ to 9¢ lb. for light-type hens, and 12¢ for heavy hens, to 26¢ to 29½¢ for various weight fryers.

For the second successive week, weather conditions throughout the valley have been perfect for pasture grasses, and this, of course, has a deterring effect on sales of feedstuffs of all types.

Mountain States

Formula feed mill representatives contacted this week agree that this past week's sales' volume has picked up a little from the previous week, and it is still somewhat above the same time a year ago.

Feeds getting the most demand in the past week have been turkey feeds and cattle feed. Turkey feeds are up from a year ago due to a large increase in the number of turkeys in this part of the country.

Most of the feed is being purchased for immediate sale, and there is no inventory buildup prior to harvest time.

Pacific Northwest

Formula feed trading held up fairly well despite unfavorable feeding returns on the part of producers. Cool, rainy weather prevailed in most Oregon and Washington districts to the extent feeding requirements were extended.

Quotations for cottonseed meal advanced $2 ton while whole milo values were up 50¢ ton. Meat and bone meal listings declined around $1 ton while barley prices dipped about 50¢ and whole corn was down 25¢ ton. Molasses beet pulp prices were unsettled with local supplies exhausted and only limited trading on outside offerings.

A dependable demand for breeder turkeys at Portland caused most poultry processors to advance producer paying prices for A grade toms by 1 to 2¢ during the period with hen quotes 1¢ up.

Lower outside market values pressured Portland hen chicken paying prices 1¢ lower to the lowest level in years. Light-type hens are only bringing producers 8¢ lb. at Portland with heavy ones valued at 9 to 10¢ on the hoof.

Producer paying prices for eggs held about steady except that some dealers advanced AA large eggs by 1¢ at Portland.

Quotes for choice steers were steady to 25¢ cwt. lower at North Portland where they closed within a $29 to $29.75 range.

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